AUDITOR GENERAL
Alberta

Report of the Auditor General of Alberta

July 2012

AUDITOR GENERAL *Alberta*

Mr. David H. Xiao, MLA
Chair
Standing Committee on Legislative Offices

I am honoured to send my *Report of the Auditor General of Alberta—July 2012* to Members of the Legislative Assembly, as required by section 20(1) of the *Auditor General Act*.

[Original signed by Merwan N. Saher]
Merwan N. Saher, FCA
Auditor General

Edmonton, Alberta
June 29, 2012

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AUDITOR GENERAL
Alberta

Auditor General's Message & Recommendations

Report of the Auditor General of Alberta—July 2012

Auditor General's Message & Recommendations

Auditor General's Message

Government restructuring announced on May 8, 2012, resulted in changed responsibilities and new ministries. We report on the government ministries as they were before the restructuring. However, we have made our recommendations to the ministries that will report on their progress to the all-party Standing Committee on Public Accounts.

The recommendations in this report speak to the need for establishing effective oversight, clear roles and responsibilities, and better systems, processes and controls. The programs of the entities we are reporting on directly affect the lives of Albertans. Whether it is to assess the effectiveness of frontline healthcare, handle and dispose of medical waste efficiently or better enforce workplace safety, we believe the improvements we recommend will benefit Albertans. Our recommendations to government regarding improving its annual reporting and performance measurement processes will, we believe, have long-term benefits by improving the quality of decision making information.

This report contains 11 new recommendations and one repeated recommendation. The repeated recommendation was made because, in our judgement, the Department's progress was insufficient.

As part of the audit process, we provide recommendations to government in documents called management letters. We use public reporting to bring recommendations to the attention of Members of the Legislative Assembly. For example, members of the Standing Committee on Public Accounts refer to the recommendations in our public reports during their meetings with representatives of government departments and agencies.

We believe all of the recommendations in this report require a formal public response from the government. In instances where a recommendation has been made to a board-governed organization, we expect the organization to implement the recommendation and report back to the government ministry that oversees the organization.

Reporting the status of recommendations

We follow up on all recommendations and report their status in our public reports. The timing of our follow-up audits depends on the nature of our recommendations. To encourage timely implementation, and assist with the timing of our follow-up audits, we require a reasonable implementation timeline on all recommendations accepted by the government or the entities we audit that report to the government. We recognize some recommendations will take longer to fully implement than others, but we encourage full implementation within three years. Typically, we do not report on the progress of an outstanding recommendation until management has had sufficient time to implement the recommendation and we have completed our follow-up audit work.

We repeat a recommendation if we find that the implementation progress has been insufficient.
We report the status of our recommendations as:

- **Implemented**—we explain how the government implemented the recommendation.
- **Satisfactory progress**—we may state that progress is satisfactory based on the results of a follow-up audit.
- **Progress report**—although the recommendation is not fully implemented, we provide information when we consider it useful for MLAs to understand management's actions.
- **Repeated**—we explain why we are repeating the recommendation and what the government must still do to implement it.
- **Changed circumstances**—if the recommendation is no longer valid, we explain why and remove the recommendation from our outstanding recommendations list which is published annually in our fall report.

New Systems Audits

Ministry of Health

Management of Healthcare Waste Materials at Alberta Health Services

No. 1
Page 15

Alberta Health Services—Oversight at AHS waste generating sites—Recommendation
We recommend that Alberta Health Services establish systems for overseeing the management of healthcare waste materials at all AHS sites that generate these materials.

Implications and risks if recommendation not implemented
Without systems for oversight of the healthcare waste materials management at all AHS-operated sites that produce such waste, AHS does not have adequate assurance it has mitigated the risks related to handling, storage and disposal of this waste.

No. 2
Page 16

Alberta Health Services—Waste handling policies and procedures at AHS sites—Recommendation
We recommend that Alberta Health Services improve the handling and disposal of healthcare waste materials at its sites by:

- standardizing healthcare waste materials handling policies and procedures across sites
- establishing processes to monitor and enforce facilities' compliance with healthcare waste materials handling policies and procedures
- ensuring chemical waste hazards are remediated promptly
- pursuing more opportunities to reduce, reuse and recycle materials that could enter the healthcare waste stream

Implications and risks if recommendation not implemented
If the appropriate procedures for handling healthcare waste materials are not applied at all sites generating this waste, health, reputational and financial risks may arise. Improperly stored chemicals may result in explosions, fires or toxic releases, and improperly segregated waste may lead to higher than necessary costs. Without adequate monitoring, AHS will not have assurance that standard procedures are in place and are complied with.

No. 3
Page 19

Alberta Health Services—Contract management for disposal of healthcare waste materials at AHS sites—Recommendation
We recommend that Alberta Health Services take steps to improve its contract management processes for healthcare waste materials by:

- requiring sites to verify services have been performed before approving vendor invoices for payment
- developing risk-focused systems to monitor healthcare waste management for purposes of controlling volumes and costs

Implications and risks if recommendation not implemented
If the amount of waste shipped is not agreed to the amounts charged and the amounts certified as destroyed by the vendor, AHS may incur excess costs for services that have not been performed. If waste volumes are not monitored across sites and over time, AHS will lose the opportunity to use this information as a complementary control to assess the reasonableness of amounts billed by the supplier, and to compare waste volumes between facilities to identify anomalies, outliers and best practices.

No. 4
Page 21

Alberta Health Services—Healthcare waste materials at contracted health service providers—Recommendation
We recommend that Alberta Health Services assess its risk related to healthcare waste materials produced by contracted health service providers and ensure contract provisions manage that risk.

Implications and risks if recommendation not implemented
If AHS does not clearly specify the standards it expects contracted service providers to meet, healthcare waste materials may not be properly managed at all contracted sites that generate these materials.

Primary Care Networks

No. 5
Page 35

Department of Health—Department's accountability for the PCN program—Recommendation

We recommend that the Department of Health:

- establish clear expectations and targets for each of the PCN program objectives
- develop systems to evaluate and report performance of the PCN program

Implications and risks if recommendation not implemented

Without clear objectives and performance measures to track activities and outcomes, the Department and AHS cannot provide meaningful evaluation of the success and cost-effectiveness of the PCN program. As a result, the Department will not have the critical information to make informed decisions on whether to change, expand or discontinue the PCN program.

No. 6
Page 40

Alberta Health Services—AHS accountability for PCNs—Recommendation

We recommend that Alberta Health Services within the context of its provincial primary healthcare responsibilities:

- define goals and service delivery expectations for its involvement in Primary Care Networks
- define performance measures and targets
- evaluate and report on its performance as a PCN joint venture participant

Implications and risks if recommendation not implemented

PCNs are a critical operational link for coordination and integration between AHS and family physicians in delivering primary health care. If AHS does not have effective systems to link PCN clinical programs with its own primary healthcare services, substantial improvement in AHS's delivery of primary healthcare services tthrough PCNs will not be achieved.

No. 7
Page 42

Department—Engagement and accountability to PCN patients—Recommendation

We recommend that the Department of Health proactively inform Albertans which Primary Care Network they have been assigned to, and what services are available through their PCN.

Implications and risks if recommendation not implemented

If patients, as the intended recipients of PCN program benefits, do not know what services the program offers or how to access them, the benefits will not be fully realized.

No. 8
Page 43

Department—Centralized support by the Department—Recommendation

We recommend that the Department of Health improve its systems to provide information and support to help Primary Care Networks and Alberta Health Services achieve PCN program objectives.

Implications and risks if recommendation not implemented

If the Department does not do all that it reasonably can to provide PCNs with the information and tools they need to plan, deliver and evaluate their services, the PCN program will not be able to perform as efficiently or effectively as it could, and the achievement of program objectives may ultimately be compromised.

No. 9
Page 48

Department—Department's systems to oversee PCNs—Recommendation

We recommend that the Department of Health improve its systems for oversight of Primary Care Networks by:

- obtaining assurance that PCNs are complying with the financial and operating policies of the PCN program
- ensuring PCN surplus funds are used in a timely and sustainable manner

Implications and risks if recommendation not implemented

The Department needs assurance that PCN funding has actually been spent for the purposes intended. Without such assurance, ineffective or inappropriate expenditures could go undetected and the achievement of program objectives could be compromised.

Without clear guidance on appropriate use of surpluses and effective monitoring of PCN surpluses and surplus reduction initiatives, public funding for the program may not be effectively utilized on a timely and sustainable basis.

Ministry of Treasury Board and Finance

Analyzing Performance

No. 10
Page 65

Department—Improving annual reporting—Recommendation

We recommend that Treasury Board and Finance work with ministries to improve annual report

- preparation processes for identifying significant performance measure variances and developing explanations for these variances for reporting
- approval processes, including senior management sign-off of a summary of the year's performance measure variances and significant variance assessments

Implications and risks if recommendation not implemented

In the absence of a thorough review of actual result variances from targets and recent historical results by ministry staff, it is possible that required follow-up will be limited or overlooked. Shortcomings or failures in variance analysis and related processes may result in

- ministries not complying fully with legislated performance measure reporting and accountability declaration requirements

No. 11
Page 67

Department—Improving guidance for performance measures—Recommendation

We recommend that Treasury Board and Finance improve guidance for

- performance measure target setting and variance identification
- significant performance measure variance assessments and annual report explanation development
- preparing the results analysis section of ministry annual reports

Implications and risks if recommendation not implemented

Performance reporting is an area of growing scrutiny and importance in the public sector. Assessment approaches and considerations used by the ministries should be consistent to support cross-government accumulations of data (e.g., in the annual *Measuring Up – Progress Report on the Government of Alberta Business Plan*) and performance analysis. Shortcomings in variance analysis and related processes

- may result in non-compliance with legislated performance measure reporting requirements
- may result in or contribute to less than optimal ministry and/or ministries' resource allocation and related decisions
- may result in difficulties transitioning to various aspects of the government 's results-based budgeting initiative

Follow-up Systems Audits

Ministry of Human Services

Occupational Health and Safety

No. 12
Page 84

Department—Promoting and enforcing compliance—Recommendation Repeated

We again recommend that the Department of Human Services enforce compliance with the law by high-risk employers and workers.

Implications and risks if recommendation not implemented

Without adequate systems to enforce compliance with the law by high-risk employers and workers, workers may continue to be exposed to otherwise avoidable risks. Employers who refuse to comply with the law may also gain an unfair advantage over employers who spend the time and resources to create a safe workplace.

AUDITOR GENERAL
Alberta

New Systems Audits

Report of the Auditor General of Alberta—July 2012

Health—Management of Healthcare Waste Materials at Alberta Health Services

Summary

The purpose of our work was to determine whether Alberta Health Services has effective systems to manage its healthcare waste materials handling and disposal. For purposes of this report, the term "healthcare waste materials" includes biomedical and chemical waste as defined by AHS.[1]

Why it is important to Albertans

The cost of healthcare waste materials management is not high in relation to AHS's total annual budget of more than $10 billion (see Appendix). However, the potential risks associated with healthcare waste materials are significant, including:

- human health risks such as infection or injury from direct contact with biomedical waste by patients, healthcare workers, visitors, cleaning staff, waste collectors, processors and recyclers.[2,3]
- environmental risks (ground, air and water contamination)—Healthcare waste materials may contain substances that are infectious, toxic, radioactive, flammable, explosive, corrosive or otherwise harmful if not safely disposed of.
- reputational risk—Healthcare waste incidents may raise fears, aesthetic concerns or loss of confidence in the healthcare system.

What we found

We found weaknesses in AHS's systems to manage healthcare waste materials. Our key findings include the following:

- AHS has not assigned responsibility for oversight of the management of healthcare waste materials at all AHS sites that generate these materials.
- AHS has not fully standardized healthcare waste management procedures across its sites.
- AHS does not have adequate controls to ensure waste disposal services have been performed before it approves vendor invoices for payment.
- AHS's current agreements with contracted service providers do not provide adequate assurance that AHS's service standards for healthcare waste materials management are being met.

[1] Biomedical waste materials include human anatomical waste (body parts), human blood and body fluids, cytotoxic waste (waste materials related to chemotherapy treatment), microbiological waste (laboratory cultures, vaccines) and used sharps (needles, blades and glass). Chemical waste is waste that contains one or a mixture of chemical compounds (e.g., solvents, reagents, chemical cleaning solutions, paints, fuels) and is classified as hazardous or non-hazardous.

[2] Canadian Council of Ministers of the Environment, 1992, *Guidelines for the Management of Biomedical Waste in Canada*. These Guidelines state "assuming proper healthcare waste disposal practices, the susceptible host population consists primarily of the waste haulers and handlers ... under normal waste disposal conditions, the general population is not exposed to healthcare waste."

[3] World Health Organization, 1999, *Safe management of wastes from healthcare activities*. The WHO states that exposure to healthcare waste such as chemicals can cause or contribute to health effects including cuts, organ or nervous system damage, sterility, cancer, burns and rashes.

What needs to be done

We made the following four recommendations to AHS:

Recommendation–Oversight at AHS waste generating sites We recommend that Alberta Health Services establish systems for overseeing the management of healthcare waste materials at all AHS sites that generate these materials
Recommendation–Waste handling policies and procedures at AHS sites We recommend that Alberta Health Services improve the handling and disposal of healthcare waste materials at its sites by: • standardizing healthcare waste materials handling policies and procedures across sites • establishing processes to monitor and enforce facilities' compliance with healthcare waste materials handling policies and procedures • ensuring chemical waste hazards are remediated promptly • pursuing more opportunities to reduce, reuse and recycle materials that could enter the healthcare waste stream
Recommendation–Contract management for disposal of healthcare waste at AHS sites We recommend that Alberta Health Services take steps to improve its contract management processes for healthcare waste by: • requiring sites to verify services have been received before approving vendor invoices for payment • developing risk-focused systems to monitor healthcare waste management for purposes of controlling volumes and costs
Recommendation–Healthcare waste at contracted health service procedures We recommend that Alberta Health Services assess its risk related to healthcare waste produced by contracted health service providers and ensure contract provisions manage that risk

Audit objective and scope

We examined healthcare waste materials from the point where they enter the waste stream. We did not examine any of the processes that may be in place to ensure all appropriate items are actually placed into waste containers—such processes are part of infection control.

We did not examine systems for managing healthcare waste materials at facilities operated by contracted service providers. AHS focuses on providing healthcare services and uses its agreements with contracted service providers to ensure such facilities comply with legislation for waste management. We reviewed the relevant provisions of AHS's contract with a major service provider to determine whether this contractual and regulatory framework adequately ensures AHS's standards for healthcare waste materials management are met.

We did not examine any aspect of healthcare waste materials that may be generated by other parties such as doctors' or dentists' offices.

Findings and recommendations

Oversight of healthcare waste materials management at sites operated by AHS

Background

AHS has a large number of sites throughout the province generating various types and volumes of healthcare waste materials. Environmental Services (ES) is a branch within AHS that currently has oversight responsibility for healthcare waste materials management at hospitals and other large sites operated by AHS. Healthcare waste materials pickup and disposal services are generally provided to AHS sites by a waste management vendor. AHS is currently developing requests for proposals for these services at its various sites throughout the province.

Recommendation: oversight at AHS waste generating sites

1 RECOMMENDATION

We recommend that Alberta Health Services establish systems for overseeing the management of healthcare waste materials at all AHS sites that generate these materials

Criteria: the standards for our audit

AHS should understand the types and volumes of healthcare waste materials produced at AHS sites and should have a business unit within AHS responsible for overseeing management of this waste. This oversight should provide the basis for control and accountability regarding safety and legislative compliance for this aspect of AHS's operations.

Our audit findings

Key finding

AHS has not assigned responsibility for oversight of the management of healthcare waste materials at all AHS sites that generate these materials.

In addition to the sites that ES says it is currently responsible for, there are more than 400 other AHS-operated sites generating healthcare waste materials that are not subject to ES's supervision. In particular, for facilities variously described as "health centres", further work is required by AHS to obtain assurance these healthcare waste materials are being appropriately managed.

At an early stage in our audit work, ES staff provided us with a list of 129 sites they said ES was responsible for, including the names of the vendors engaged to dispose of healthcare waste materials at those sites. Included on this list were all AHS hospitals in the province, which produce the vast majority of the volume of such waste.

In response to our audit enquiries, ES staff worked for several months to verify all the other AHS-operated sites that may be generating healthcare waste materials. They also determined whether ES oversees the management of that waste and which vendor had been contracted to dispose of it. On October 25, 2011, ES confirmed that healthcare waste materials are produced at 573 of the 938 sites operated by AHS, plus 72 of the 112 sites operated by contracted service providers. This means that there are currently more than 400 AHS-operated sites and 72 contractor-operated sites producing healthcare waste materials that are not under ES's oversight responsibility.

ES explained to us that its roles and responsibilities in this area are evolving. For example, the type and number of sites ES is responsible for overseeing may change over time. ES informed us it is drafting a strategy proposing that ES be given responsibility for overseeing healthcare waste management at all AHS sites generating these materials. ES also told us that all such sites will be included in its planned requests for proposals from contractors to dispose of AHS's various waste streams. ES says it intends to add provision for contracted sites to have the option of harmonizing their waste management services with AHS's selected vendors on terms similar to those negotiated for AHS-operated sites.

Implications and risks if recommendation not implemented

Without systems for oversight of the healthcare waste materials management at all AHS-operated sites that produce such waste, AHS does not have adequate assurance it has mitigated the risks related to handling, storage and disposal of this waste.

Waste handling policies and procedures

Background

AHS has a large number of sites throughout the province generating various types and volumes of healthcare waste materials. This creates a challenge in coordinating waste handling practices across sites.

Recommendation: waste handling policies and procedures at AHS sites

2 RECOMMENDATION

We recommend that Alberta Health Services improve the handling and disposal of healthcare waste materials at its sites by:

- standardizing healthcare waste materials handling policies and procedures across sites
- establishing processes to monitor and enforce facilities' compliance with healthcare waste materials handling policies and procedures
- ensuring chemical waste hazards are remediated promptly
- pursuing more opportunities to reduce, reuse and recycle materials that could enter the healthcare waste stream

Criteria: the standards for our audit

Waste handling, storage and disposal

AHS should:

- have standard definitions for the various types of healthcare waste materials across all its sites
- have uniform, documented standards for proper collection, handling, storage, transportation and disposal methods for each category of healthcare waste materials
- have systems to properly segregate waste materials, where practicable, as they enter the healthcare waste stream
- have systems to ensure it complies with legislation applicable to healthcare waste materials

Training

AHS should provide ongoing training to all staff members involved in healthcare waste generation and collection.

Monitoring and oversight

AHS should:

- have systems to monitor healthcare waste management to obtain assurance that AHS sites are complying with its standards
- have systems to flag waste handling problems for follow-up and remedial action

Our audit findings

Key finding

AHS has not fully standardized healthcare waste management procedures across sites. As a result, potentially serious chemical waste hazards exist at some sites, and waste materials segregation could improve.

Definitions and standards

In 2011, AHS's Environmental Services branch revised its definitions for the various types of healthcare waste materials and standards for the proper collection, handling, storage, transportation and disposal treatment methods to be used for each category of healthcare waste materials. It has also set up a document management system to distribute these policies and procedures to the sites. The definitions and standards are consistent with authoritative guidance, including that of the Canadian Standards Association, or CSA.[4] ES informed us these revised policies and procedures are being put into place at all major AHS-operated sites. However, at the time our audit concluded, some sites were still using procedures carried forward from the former regional health authorities, resulting in inconsistencies between sites and a risk that procedures at some sites may not fully meet the new standards.

Chemical waste

Standards for safely handling hazardous materials have been set by the Canadian Centre for Occupational Health and Safety, including MSDS.[5] Reviews of seven southern Alberta sites, conducted by ES in April and May 2011, found several instances where various chemical waste hazards were present, including the following:

- Some chemicals were not properly labelled or, in some cases, were not labelled at all.
- Incompatible wastes were not properly segregated (some chemicals may react with others and ignite or explode) or were not properly stored (some were stacked).
- Some chemicals requiring special handling may not have adequate precautions in place for handling (for example, picric acid can be highly explosive).
- In one case, gasoline fuels tanks were present in the chemical storage area.

Specialized training is required to deal with chemical waste safely. At the sites administered by ES, housekeeping personnel who handle chemical waste have WHMIS[6] training, but generally no TDG[7] training. The distinction is significant. WHMIS deals with how to handle chemicals and other hazardous materials during use, whereas TDG focuses on how to transport such materials.

WHMIS training for the housekeeping staff is only part of the solution for safe handling of these materials. It is essential that appropriate systems for labelling, segregating, storing and disposing of these materials be in place, either by making the generating areas responsible for transferring and storing chemicals before final disposal, or by having the waste contractor, who is trained in TDG, go directly to the generating areas to remove this waste.

[4] CSA Z317.10-09 (2009), *Handling of waste materials in healthcare facilities and veterinary healthcare facilities*.

[5] An MSDS, or Material Safety Data Sheet, is a document that contains information on the potential hazards (health, fire, reactivity and environmental) and how to work safely with a chemical product. It is an essential starting point for a complete health and safety program. The supplier or manufacturer of the material prepares the MSDS. It contains much more information than a product label—it explains the hazards of the product, how to use and store the product safely, what to expect if the recommendations are not followed, what to do if accidents occur, how to recognize symptoms of overexposure, and what to do if such incidents occur (CCOHS website July 2011).

[6] WHMIS, the Workplace Hazardous Materials Information System, is Canada's national hazard communication standard. Key elements of the system are cautionary labelling of containers of WHMIS "controlled products," MSDSs, and worker education and training programs. Education is instruction in general information such as how WHMIS works and the hazards of controlled products. Training is instruction in site-specific information such as work and emergency procedures. Education and training are both important in understanding hazards.

[7] TDG stands for Transportation of Dangerous Goods. In Canada, the transportation of potentially hazardous materials is regulated under the federal *Transportation of Dangerous Goods Act* and *Regulations*, which are administered by Transport Canada. The legislation sets out criteria for classifying materials as dangerous goods and specifies how these materials must be packaged and shipped.

Segregating biomedical and general waste

We did not find evidence of AHS staff putting healthcare waste materials into general waste.[8] Our discussions with ES and site managers indicated AHS healthcare workers are generally very aware of the need for proper handling of these materials and are conscientious in dealing with them properly.

However, it was less clear to us that some general waste is not going into healthcare waste. This is not a health or environmental hazard. Depending on volumes, such practices could result in significantly higher disposal costs because the cost of healthcare waste disposal is approximately 10 times the cost of general waste disposal. While the total costs of healthcare waste disposal may not justify an elaborate monitoring system, periodic checks or waste audits could be effective in maintaining staff awareness of this issue. At present, no formal program of monitoring is in place at AHS, other than site-specific initiatives that we observed to be ad hoc suggestions from the housekeeping staff to various generating areas.

Recycling

It is generally accepted in the waste management sector that robust recycling programs help improve segregation of general and healthcare waste materials, thereby reducing costs and the organization's environmental footprint. We found that some beverage containers and paper/cardboard (for example, shredded confidential documents, baled cardboard) are recycled, but other materials such as glass and metals are generally not. Plastics are also not recycled, with the exception of a pilot project at one hospital in Edmonton and returnable/refundable containers collected by the staff at many sites. ES informed us it is starting a pilot program for enhanced recycling at selected Calgary sites.

Opportunities to recycle are continually emerging. For example, several companies now collect metals, the City of Edmonton is developing additional recycling and energy conversion capacity for handling plastics, and commercial "blue bin" recycling services are available to handle various materials.

Training and supervision

We observed inconsistencies in waste handling at the two sites we visited, which may be the result of different procedures, training programs, supervision or combinations thereof. For example, while procedures were generally rigorous at the larger hospital, at the smaller hospital some biomedical waste bags were sitting on the floor rather than being secured in cardboard boxes, some waste bags were overfilled, some pails for sharps did not have required lids in place, and waste handling safety posters were not uniformly displayed. ES's recent onsite visits to seven southern Alberta facilities found similar inconsistencies.

In addition to their professional education and training, staff members at each site receive training on that site's procedures for handling healthcare waste materials. As part of its efforts to standardize healthcare waste handling procedures, ES is developing a training program and was expected to begin working with site managers on training delivery in January 2012. ES acknowledges the need for consistency and monitoring. A series of onsite visits around the province has been started and periodic waste audits may be requested in forthcoming requests for proposals for biomedical and hazardous waste disposal services.

[8] "General waste" is essentially ordinary garbage (for example, plastics).

Implications and risks if recommendation not implemented

If appropriate procedures for handling healthcare waste materials are not applied at all sites generating this waste, health, reputational and financial risks may arise. Improperly stored chemicals may result in explosions, fires or toxic releases, and improperly segregated waste may lead to higher than necessary costs. Without adequate monitoring, AHS will not have assurance that standard procedures are in place and are complied with.

Vendor management

Background

Two contractors, who have negotiated separate agreements with AHS facilities in different areas of the province, handle the substantial majority of AHS's biomedical waste. A third company has the contract for hazardous/chemical waste management. While there is some uniformity to pricing structures within regions, there are wide fluctuations in cost structure overall. These fluctuations primarily reflect higher costs of pickup at various locations and transport to final disposal sites.

The contractors generally supply the containers used for disposal. The contractors also provide labels to be applied by each site to filled containers before shipping. Most containers are single-use only, although some reusable containers are also in service.

According to ES's approved protocols, the basic disposal procedures are as follows:

1. The contractor's truck arrives on site.
2. Housekeeping staff members move full healthcare waste materials containers, bar-coded or labelled as appropriate, from designated storage areas to the loading area.
3. The driver is to provide the site a copy of the shipping manifest indicating the number of containers picked up.
4. Waste is to be transferred to the contractor's facility, weighed (if biomedical waste), and transported on larger trucks to the disposal facility.
5. For biomedical waste, the disposal facility is to process the waste and stamp a Destruction Certificate on the remaining copies of the manifest, of which notably the yellow copy is to be sent back to the originating site with the monthly billing. For chemical waste, the disposal facility is to sign a Destruction Certificate, which is to be submitted to the site with the monthly billing.

Recommendation: contract management for disposal of healthcare waste materials at AHS sites

3 RECOMMENDATION

We recommend that Alberta Health Services take steps to improve its contract management processes for healthcare waste materials by:

- requiring sites to verify services have been performed before approving vendor invoices for payment
- developing risk-focused systems to monitor healthcare waste management for purposes of controlling volumes and costs

Criteria: the standards for our audit

Procurement controls

AHS should have appropriate controls in place to ensure it has received goods and services purchased for healthcare waste management (such as disposal supplies and disposal charges), before approving vendor invoices for payment.

Performance management

AHS should establish and monitor key performance measures for healthcare waste management (for example, volumes produced, amount recycled).

Our audit findings

Key finding

AHS does not have adequate controls to ensure waste disposal services have been performed before it approves vendor invoices for payment, and does not have systems to monitor waste volumes to help control costs.

Procurement controls

Under the regional health authority structure, sites or regions were responsible for approving their own procurement costs. AHS has centralized this role. AHS's Environmental Services branch indicates that payment approval has recently been reassigned to individual sites, which are in the best position to confirm services have been performed. However, this alone will not reduce the risk of billing errors and overcharges going undetected.

The sites are not consistent in monitoring the amount of waste they send for disposal. With limited exceptions, the sites have no process to weigh the amount of waste shipped, which is the basis of the charge, and there is no consistently applied compensating control to agree the number of containers loaded to quantities on the manifest left by the driver, on even a sample basis, as a proxy for volumes shipped. Moreover, amounts shipped are not reconciled to amounts destroyed to ensure services have been performed and waste has not ended up in other than intended locations.

Performance management

Waste volumes are not tracked by the sites. We found that ES had not tracked this information either, so no variance or trend analysis is being done on volumes. To estimate biomedical waste volumes and costs, we were directed to AHS's main contractor for biomedical waste management. ES had copies of monthly invoices for individual facilities, but no summary report from the contractor and no internal system to compile this information. For its part, the contractor was cooperative but could not provide us with more than selected regional monthly summaries (see Appendix). As a result, it was not reasonably possible for AHS or our Office to determine the actual annual volumes of healthcare waste materials processed, what they cost, or to analyze site volumes relative to other facilities of similar size.

Near the end of our audit, ES was evaluating creation of its own database to collect and analyze data on volumes and costs from all facilities, or including such a requirement in forthcoming request for proposal specifications of services to be provided by the vendor. ES also indicated it plans to develop key reports and indicators for ongoing monitoring and accountability.

Implications and risks if recommendation not implemented

If the amount of waste shipped is not agreed to the amounts charged and the amounts certified as destroyed by the vendor, AHS may incur excess costs for services that have not been performed. If waste volumes are not monitored across sites and over time, AHS will lose the opportunity to use this information as a complementary control to assess the reasonableness of amounts billed by the supplier, and to compare waste volumes between facilities to identify anomalies, outliers and best practices.

Contracted service providers

Background

AHS delivers a significant portion of its healthcare services through contracted service providers such as Covenant Health. ES has confirmed that 72 of the 112 sites operated by contracted service providers generate healthcare waste materials.

ES informed us that "while AHS is responsible for the patients who receive care from a contracted service provider, AHS does not take responsibility for the service provider's compliance with provincial laws such as environmental protection legislation or disposal of hazardous materials, or for the day-to-day enforcement of those laws. AHS is focused, by its legislation, on the provision of healthcare services, and it addresses legislative compliance through appropriate language in its agreements with service providers."

The main focus and objective of AHS's contracting activities is the delivery of healthcare services, and contract provisions around medical waste management are only one of many considerations in the contracting process. Any efforts by AHS to improve contract provisions for healthcare waste materials need to be viewed in the broader context of AHS's contracting policies and practices.

Recommendation: healthcare waste materials at contracted health service providers

4 RECOMMENDATION

We recommend that Alberta Health Services assess its risk related to healthcare waste materials produced by contracted health service providers and ensure contract provisions manage that risk.

Criteria: the standards for our audit

Service standards

AHS should have systems to ensure contracted service providers meet its requirements for management of healthcare waste materials.

Our audit findings

Key finding

AHS's current agreements with contracted service providers do not provide adequate assurance that AHS's service standards for healthcare waste materials management are being met.

The standard terms of AHS's agreements with contracted service providers require the contractor to warrant it has the skills, qualifications and experience necessary to ensure the performance and management of the services specified in the agreement. The standard agreement also requires a contracted service provider to comply with all laws applicable to its duties and obligations under the agreement, including occupational health and safety and environmental protection legislation. Contracted service providers must also ensure their programs, operations and services comply with written policies of AHS, provided the contractor has been notified of such policies.

Applicable legislation does not reference, or provide direction comparable to, the authoritative guidance of the CSA standards on which ES has based its policies and procedures for the AHS sites it is responsible for.[9] For example, CSA standards and ES policies require biomedical waste to be secured and segregated in clean, refrigerated and locked storage areas until disposal, which are requirements not prescribed in legislation. The applicable legislation deals with:

- the definition of "biomedical waste"[10]
- disposal of "biomedical waste"[11]
- transportation of "dangerous goods"[12]
- workplace safety[13]

In general, if AHS intends to rely on legislative compliance provisions for assurance that contracted service providers will meet its service delivery standards, it needs be sure that relevant legislation specifies such standards.[14] Where legislation alone does not achieve this purpose, as in the management of healthcare waste materials, it may be appropriate for AHS to advise its contracted service providers of the policies and standards it requires them to comply with.

Implications and risks if recommendation not implemented

If AHS does not clearly specify the standards it expects contracted service providers to meet, healthcare waste materials may not be properly managed at all contracted sites that generate these materials.

[9] CSA Z317.10-09 (2009), *Handling of waste materials in healthcare facilities and veterinary healthcare facilities*.

[10] Under the *Waste Control Regulation* (AR 192/96) to the *Environmental Protection and Enhancement Act* (RSA 2000 cE-12), "biomedical waste" is defined as waste generated by:
(i) human healthcare facilities,
(ii) medical research and teaching establishments,
(iii) clinical testing or research laboratories, and facilities involved in the production or testing of vaccines,
and contains or may contain pathogenic agents that may cause disease in humans exposed to the waste. However, biomedical waste is not "hazardous waste" for purposes of disposal restrictions unless it meets the definition of hazardous waste due to its combustibility, toxicity, or chemical structure.

[11] The Environmental Code of Practice for Landfills under the *Environmental Protection and Enhancement Act*, requires all landfills in Alberta comply with the *Guidelines for the Management of Biomedical Waste in Canada*, published by the Canadian Council of Ministers of the Environment (CCME) in 1992. Those guidelines include requirements that:
- no human anatomical waste go to landfill,
- no human blood or body fluids go to landfill,
- microbiology laboratory waste can go to landfill if properly treated (steam autoclaved), and
- sharps can go to landfill if properly treated (steam autoclaved).

Healthcare waste materials meeting the definition of "hazardous waste" can only be accepted for disposal by the Swan Hills Treatment Centre or a Class 1 landfill.

[12] The *Dangerous Goods Transportation and Handling Act* (RSA 2000 cD-4) defines "dangerous goods" as a product, substance or organism that is:
- explosive, flammable, or liable to spontaneously combust,
- an oxidizing or corrosive substance,
- poisonous (toxic) or infectious,
- a nuclear substance within the meaning of the *Nuclear Safety and Control Act* (Canada), or
- otherwise considered by the Governor in Council under the *Transportation of Dangerous Goods Act, 1992* (Canada) to be dangerous to life, health, property or the environment when handled or transported.

The Act places various restrictions on the handling and transportation of "dangerous goods," for example containment, labelling, travel routes and emergency response plans.

[13] Part 35, "Healthcare and Industries with Biological Hazards," of the Occupational Health and Safety Code under the *Occupational Health and Safety Act* (RSA 2000 cO-2) requires employers to control a worker's exposure to blood borne pathogens or other biohazardous material, establish policies and procedures dealing with storing, handling, using and disposing of biohazardous materials, ensure workers are informed of the health hazards associated with exposure to the biohazardous material, and ensure workers' exposure to biohazardous materials is kept as low as reasonably practicable. The Code references more than 50 CSA standards, but CSA Z317.10-09 on the handling of waste materials in healthcare facilities is not one of them.

[14] The *Public Health Act*, s 66(2)(g), allows the Minister of Health to make regulations respecting the handling and disposal of biomedical waste, but no regulations have been enacted to date.

Appendix—Estimated Biomedical Waste Volumes and Costs

Facility	Est kg/yr	Est $/kg	Est cost/yr
U of A Hospital	420,000	$1.08	$453,600
Royal Alexandra Hospital	265,000	1.08	286,200
Grey Nuns Hospital	95,000	1.08	102,600
Misericordia Hospital	70,000	1.08	75,600
Edmonton General Hospital	35,000	1.08	37,800
Edmonton Renal	72,000	1.08	77,760
Edmonton Provincial Lab	84,000	1.08	90,720
Edmonton rural hospitals	24,000	1.08	25,920
Calgary urban hospitals	720,000	0.79	568,800
Calgary rural hospitals	90,000	0.96	86,400
Carewest	12,000	0.79	9,480
AHS south zone	180,000	1.73	311,400
AHS central zone	108,000	2.21	238,680
AHS north zone and others	198,000	1.36	269,280
TOTAL	**$2,373,000**		**$2,634,240**

Sources

1. Based on Jan 1 to Dec. 31/09 volumes compiled by Environmental Services using vendor invoices.
2. Based on December 2010 volumes provided to the Auditor General by AHS's largest waste management vendor.
3. Estimate includes all other AHS sites that generate healthcare waste materials, based on average costs for similar sites.

Health—Primary Care Networks

Summary

The first Primary Care Network began operations in 2005. The program has grown steadily since its inception. As of April 2012, there are 40 PCNs operating in the province, involving over 2,600 family physicians and more than 600 full-time equivalent other healthcare providers in delivering primary healthcare services to 2.9 million Albertans. The Department of Health expects to spend more than $170 million on the PCN program in 2012-13, and has provided over $700 million in funding to date.

Why it is important to Albertans

The significance of the PCN program goes far beyond the direct funding the Department provides to it. PCNs are a critical link that operationally connects family physicians with AHS in the delivery of primary healthcare services. High quality primary healthcare is critical for prevention of acute illness and for effective and efficient management of chronic disease. By focusing on health promotion and disease prevention, primary healthcare can help identify disease at its onset and reduce the subsequent severity of an illness. This can produce better health outcomes for Albertans and reduce the demand on more expensive acute care services.

What we examined

The objective of our audit was to determine whether the Department of Health has systems to demonstrate the value that Albertans are receiving from the public's investment in Primary Care Networks. We examined:

- whether the Department has systems to ensure PCNs, individually and overall, are achieving the objectives of the PCN program
- whether Alberta Health Services has systems to meet its responsibilities under the PCN program

We performed two concurrent audits—one at the Department of Health and one at AHS. The reason for presenting them in one report is that both entities have significant roles with respect to PCNs, and these roles must be coordinated for the program to succeed.

What we found

We found significant weaknesses in the design and implementation of the accountability systems for the PCN program. Our overall conclusions are as follows:

- The Department and AHS do not have systems to evaluate the PCN program and demonstrate that their current efforts are bringing the province-wide benefits envisioned for this initiative.
- Albertans are not informed that they are assigned to a PCN, and PCNs do not have the names of those the Department has assigned to them. PCNs know only the total number of patients assigned and the amount of funding they receive. This limits patients' ability to engage in decisions about their own healthcare, and impairs PCN program planning and accountability.
- Opportunities to create province-wide systems to support and improve the PCN program have been missed by both the Department and AHS.
- System weaknesses at different levels within the PCN program have resulted in poor compliance oversight for the program overall.
- Although we found weaknesses in the systems of accountability and centralized support for the PCN program, we observed many examples of positive outcomes and good practices by individual service providers, management and staff at PCNs and AHS, as well as the Department.

PCN context

The current state of the PCN program must be viewed in the context of challenges the program has faced since its inception. The following history provides some context for the progress of the program:

- The PCN program was the first systematic effort in Alberta to bring the Department, regional health authorities and family physicians together at the operational level in primary healthcare.
- During the eight years (2003–2011) that a Tri-lateral master agreement was in effect, the Department, regional health authorities (later AHS), and the Alberta Medical Association were considered equal parties in making decisions about the PCN program. This need for consensus created challenges in aligning the parties' interests to achieve the common objectives of the PCN program and measure its success.
- To get the initiative started, sacrifices were made around system design, controls and performance measurement. The Department and regional health authorities expected to overcome these limitations and gaps as the PCN program matured.
- From the start, the daily operations of PCNs were placed under the control of family physicians, with regional health authorities participating mainly at the governance level on PCN boards.
- Effective April 1, 2009, AHS took over from the nine regional health authorities as a 50% joint venture participant in all PCNs. AHS had to combine the different structures inherited from the regional health authorities into a province-wide approach to its PCN responsibilities. Subsequent reorganizations within AHS have further changed the processes between AHS and the PCNs.
- With the expiry of the Tri-lateral Master Agreement on March 31, 2011, the Department has sole authority for all financial matters related to the PCN program, with input from AHS and the AMA through an interim advisory committee that has representation from all three parties.

What needs to be done

We made the following four recommendations to the Department of Health and one recommendation to Alberta Health Services:

Recommendation—Department's accountability for the PCN program

We recommend that the Department of Health:

- establish clear expectations and targets for PCN program objectives
- develop systems to evaluate and report performance of the PCN program

Recommendation—AHS accountability for PCNs

We recommend that AHS within the context of its provincial primary healthcare responsibilities:

- define goals and service delivery expectations for its involvement in PCNs
- define performance measures and targets
- evaluate and report on its performance as a PCN joint venture participant

Recommendation—Engagement and accountability to PCN patients

We recommend that the Department of Health proactively inform Albertans about which PCN they are informally assigned to, and what services are available through their PCN.

Recommendation—Department's support to the PCN program

We recommend that the Department of Health improve its systems to provide information and support that the PCNs and AHS need to achieve PCN program objectives.

Recommendation—Department's oversight of PCNs

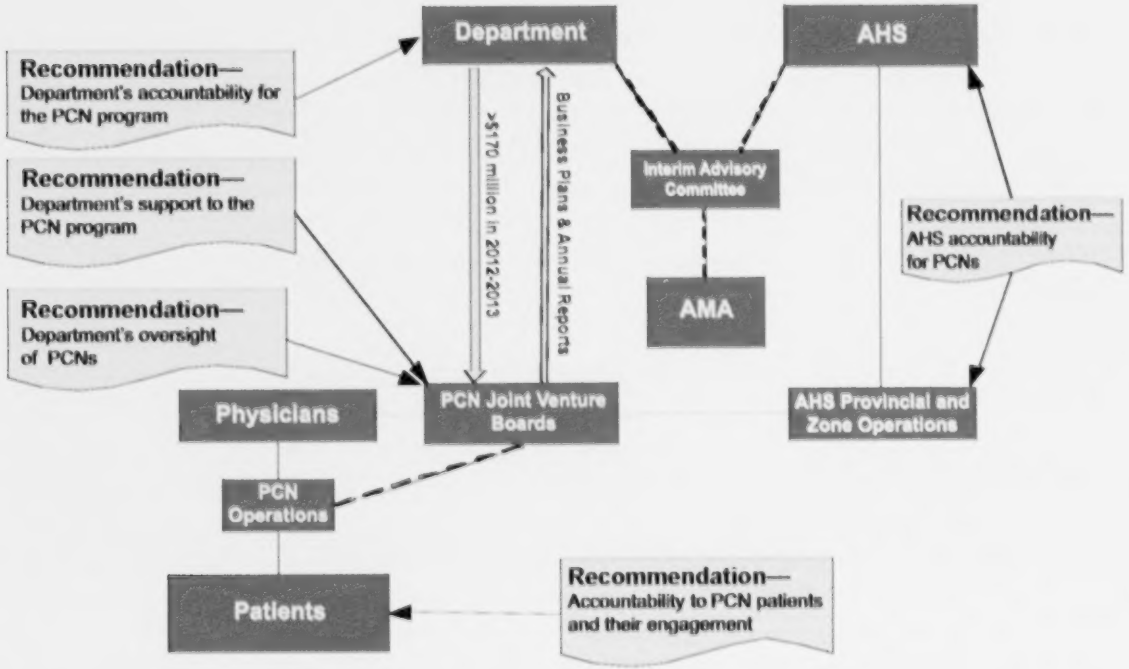
We recommend that the Department of Health improve its systems for oversight of PCNs by:

- obtaining assurance that PCNs are complying with the financial and operating policies of the PCN program
- ensuring PCN surplus funds are used in a timely and sustainable manner

Acronyms in this chapter

AHS	Alberta Health Services
AMA	Alberta Medical Association
AMEGW	Accountability Monitoring Evaluation Working Group
CDM	Chronic Disease Management
CIHI	Canadian Institute for Health Information
EMR	Electronic Medical Record
FCC	Family Care Clinic
FTE	Full-time Equivalent
HQCA	Health Quality Council of Alberta
IAC	Interim Advisory Committee
LPN	Licensed Practical Nurse
PCIC	Primary Care Initiative Committee
PCN	Primary Care Network
PDI	Performance and Diligence Indicators
PMO	Program Management Office
SRP	Surplus Reduction Plan

The figure below shows the areas of the PCN program that our recommendations relate to:



Audit objective and scope

The focus of our audit was on the accountability systems in place at the Department and AHS to support the implementation of the PCN program as it currently exists. It was not our objective to conclude on how agreements between the Department, AHS and the AMA should be structured, or how resources for the delivery of the PCN program should be organized.

We did not audit the work of family physicians or individual PCNs. We met with management from five PCNs to understand their business operations, systems and perspectives on PCN effectiveness.

We did not audit systems at the Program Management Office[1] but met with the office's management to understand their role and perspective on PCN accountability.

Our scope did not include verifying the completeness or accuracy of information the PCNs report to the Department. We did not assess whether the patient or service data in the information systems of the Department, AHS or the PCNs is complete or accurate.

Audit Background

What is primary healthcare?

Primary healthcare consists of systems that provide Albertans with access to coordinated, integrated and expanded services within their community, with a focus on population health, sickness prevention through early intervention and health promotion. Optimal primary healthcare delivery provides Albertans access to primary healthcare when they need it, where they need it and from the most appropriate provider(s).

Primary healthcare services include, but are not limited to:

- prevention and treatment of common diseases and injuries
- basic emergency services
- referrals to, and coordination with, other levels of care (such as hospitals and specialists)
- chronic disease prevention and management
- primary mental healthcare
- palliative and end-of-life care
- health promotion
- healthy child development
- primary maternity care
- rehabilitation services

A key component of primary healthcare is that it is meant to be continuing rather than episodic, implying attachment to a family physician or group of primary caregivers. Primary healthcare is delivered in a variety of settings—appointments with family physicians, consultations with nurses or nurse practitioners, telephone calls to health information lines, and advice received from pharmacists are just some examples of primary healthcare services. According to Health Canada, primary healthcare includes aspects of health promotion, illness and injury prevention, as well as the diagnosis and treatment of illness and injury.[2]

Primary healthcare also requires individuals to play an active role in their own health, preventing people from becoming ill or injured, managing chronic conditions, and transitioning patients to more advanced levels of care when they suffer acute or episodic illness. The Ministry of Health believes that when Albertans understand and actively participate in their own care, health outcomes improve.

[1] The Program Management Office (PMO) is staffed through the Alberta Medical Association and funded by the Department. Its main role is to assist individual PCNs in preparing their business plans, budgets and reports.

[2] Health Canada website: http://www.hc-sc.gc.ca/hcs-sss/prim/about-apropos-eng.php

Why is primary healthcare important?

Primary healthcare improvement is one of the five strategies highlighted in *Becoming the best: Alberta's 5-year health action plan, 2010–2015*.[3] The five-year plan called for creation of a provincial primary healthcare plan by March 2012. The provincial primary healthcare plan has not yet been developed.

Primary healthcare is the cornerstone of prevention and early identification of illness and management of chronic disease. For most Albertans, primary healthcare providers, in particular family physicians, are the first point of contact with the healthcare system. As gatekeepers for the broader healthcare system, primary caregivers are critical to improving coordination with public health, continuing care, elder care, palliative care, emergency care, urgent care, hospital care, specialized care, diagnostic services, prevention services, educational centres, community clinics, self-help groups, women's shelters and youth treatment facilities.

The benefits of primary healthcare include its potential to help maintain a healthier population.[4] An effective primary healthcare system treats disease and meets patient needs in the community, before hospitalization is required. Patients that do not receive timely and effective treatment from primary healthcare providers don't simply get their care elsewhere—more often than not they later present at emergency departments and hospital inpatient units. Effective primary healthcare services help reduce the financial burden of the disease because prevention and early treatment are almost always less expensive than hospitalization.

Primary healthcare is also the key to effective and efficient management of chronic diseases. Chronic diseases are a significant burden for the healthcare system. Alberta's health utilization data shows the Ministry of Health spends about $400 a year for a healthy person. This compares to $650 for someone with an acute condition, $1,400 for a person with a single major chronic condition, and $10,000 for someone with multiple chronic conditions. Although cancer is generally presumed to be a major cost to the system, the average yearly expenditure for someone with cancer is $4,700.[5]

Globally, the case for primary healthcare is well established: stronger primary healthcare leads to better health outcomes. International studies demonstrate that the strength of a country's primary healthcare system is associated with improved population health outcomes for all-cause mortality, and all-cause premature mortality. Increased availability of primary healthcare results in higher patient satisfaction and reduced total healthcare spending. Countries such as New Zealand, Finland, Denmark, Norway and the United States (Kaiser Permanente) have demonstrated positive health outcomes for their populations and significant improvements in equity, efficiency, effectiveness and responsiveness of their health systems. In light of these benefits, there has been a world-wide resurgence and refocus on primary healthcare.[6]

[3] See http://www.health.alberta.ca/initiatives/5-year-health-action-plan.html
[4] Starfield, Shi & Macinko, 2005, Contribution of Primary Care to Health Systems and Health.
[5] AHS, 2010, Discussion paper on primary care models (unpublished).
[6] Ibid.

What is the Primary Care Network program?

History

In 2000, Canada's prime minister and the provincial and territorial premiers agreed that improvements to primary healthcare are crucial to the renewal of health services and highlighted the importance of multidisciplinary teams. To that end, the Government of Canada established the $800 million Primary Healthcare Transition Fund, of which Alberta's share was over $50 million. The fund supported provinces and territories in their efforts to reform the primary healthcare system by providing support for new approaches to primary healthcare delivery.

In Alberta, the policy response to the national primary healthcare initiative has been the PCN program. PCNs were initially conceived of as a means to apply the federal funding. However, the Department, regional health authorities and the Alberta Medical Association collectively recognized the value of ongoing funding for primary healthcare reform and innovation. They formed a trilateral primary care initiative,[7] what we now refer to as the PCN program. Administration of the program became the responsibility of the Primary Care Initiative Committee. The committee had equal representation from the Department, AHS and the AMA, and made program decisions based on consensus of the three parties.

What is a PCN?

A PCN is a joint venture between a group of family physicians and Alberta Health Services, funded by the Department of Health. The five key objectives of PCNs are to:

1. increase the proportion of residents with ready access to primary care
2. provide coordinated 24-hour, 7-days-per-week management of access to appropriate primary care services
3. increase the emphasis on health promotion, disease and injury prevention, and care of the medically complex patient and patients with chronic diseases
4. improve coordination and integration with other healthcare services, including secondary, tertiary and long-term care through specialty care linkages to primary care
5. facilitate the greater use of multidisciplinary teams to provide comprehensive primary care

The intent was that decisions on service priorities and delivery models would be made jointly by physicians and AHS representatives. Individual PCN business plans, budgets, mid-year and annual reports were forwarded to the Primary Care Initiative Committee for approval. As of April 1, 2012, the Department had assumed direct authority for review and approval of accountability documentations, as per PCN grant funding agreements (see Appendix A).

A PCN board or governance committee comprised of physicians and AHS representatives sets policy direction in each PCN. Daily clinical operations of the PCN are primarily in the control of the family physicians, an issue that was deemed important by the physicians.[8]

[7] The PCN program was set out in Schedule G to the Tri-Lateral Master (Physician Funding) Agreement in effect from April 1, 2003 to March 31, 2011.

[8] College of Family Physicians of Canada website: http://toolkit.cfpc.ca/en/governance/appendix-2-alberta-primary-care-networks-governance-issues.php

A brief summary of PCN facts is presented below (for more details see Appendix B):

Number of PCNs at April 1, 2012	40
PCN physicians at April 1, 2012	Over 2,600
PCN non-physician healthcare providers employed by PCNs at March 31, 2011	About 600 full-time equivalent (FTE) non-physician healthcare providers (e.g., nurses, dietitians, mental health workers, pharmacists), or an average of 0.25 non-physician FTEs for every PCN physician. Significant variation among PCNs—some employ none, while others employ 0.7 FTEs for every PCN physician.[9]
Albertans assigned to PCNs at April 1, 2012	Approximately 2.9 million
Funding allocated to PCNs	Total to March 31, 2012: $645 million 2012–2013 budget: $174 million These funds are in addition to more than $1 billion/year the Department spends in fee-for-service payments to family physicians and the Department's $10.5 billion grant to AHS in 2012–2013.
PCN payments to non-physician healthcare providers	In 2010–2011, an average of 36% of all PCN expenses were for compensation to non-physician healthcare providers, ranging from 0% to 65% of expenses.[10]
PCN payments to physicians	In 2010–2011, an average of 28% of all PCN expenses were payments to physicians for services other than fee-for-service patient care, ranging from 4% to 62%.[11]
Other PCN expenses	In 2010–2011, other expenses (e.g., utilities and rent, management compensation, information technology, administrative and support), averaged 36% of all PCN expenses, ranging from 15% to 93%.[12]

Clinical services provided by PCNs

The services provided by individual PCNs vary due to variations in size of the geographic area covered, number of physicians in the PCN and known patient needs. In most PCNs, family physicians continue to provide care through their own offices or clinics. In some cases, family physicians and other healthcare providers employed by the PCN may co-locate, providing one-stop service to their patients.

PCNs employ multidisciplinary teams of healthcare providers, including nurses, dietitians, mental health workers and others to increase access and deliver comprehensive care. A PCN may establish a triage system to direct patients to a physician or one of these other healthcare providers, depending on the patient's needs. PCNs deliver programs in areas of health promotion, disease and injury prevention, care of chronic disease and complex needs, family planning and pregnancy counselling, well-child care, obstetric care, palliative and end-of-life care, geriatric care and rehabilitative care (see Appendix C).

[9] Newly established PCNs in general will show higher administrative costs in relation to total PCN expenses while their clinical programs are being developed.
[10] Ibid.
[11] Ibid.
[12] Ibid.

The potential benefits of PCNs

It is important to look at the five stated objectives of the PCN program and understand the potential that achievement of these objectives has for the health of Albertans and the healthcare delivery system as a whole. Appreciating the opportunities presented by the PCN program helps set realistic expectations, performance measures and targets for meaningful program evaluation. Potential benefits include:[13]

PCN objective	Potential service benefits	Potential health benefits
Improved access	• increased number of Albertans with a personal family physician, or other primary healthcare provide • reduced wait times to see an appropriate primary healthcare provider, including a family physician	• patients with a personal family physician tend to have better health and better health outcomes than patients who do not • improved health outcomes because problems are treated before they become more serious
24/7 (extended hours) services	• reduced visits to emergency departments for conditions that can be treated in a family care setting • patients can see a primary healthcare provider when they need to	• better health outcomes for these patients when treated in a family care setting • improved access—see access benefits above
Chronic disease prevention and management (CDM)	• future cost savings by preventing onset of acute and complex medical problems • use of evidence-based clinical practice guidelines and information technology to improve quality of care • reduced acute care admissions and emergency visits for conditions that can be treated in a primary healthcare setting	• increased years of good health improved and more consistent outcomes from best practice treatment • chronic problems are managed before they become severe
Improved linkages with other providers	• reduced wait times to receive specialized care • more timely and complete communication of medical information between providers • reduced redundant tests	• improved health outcomes because problems are treated sooner • reduced prescription errors and more accurate diagnoses and treatments save time, reduce stress and risk from unnecessary tests
Multidisciplinary Teams	• chronic disease management is facilitated using other health providers (dietitians, pharmacists, therapists, etc.) • a team of providers, including family physicians, can offer broader and more appropriate service to patients	• more comprehensive and timely primary healthcare services, for treatment of such conditions as chronic disease—see CDM benefits above • improved access—see access benefits above

[13] We reviewed several sources to compile this list, including Health Canada (e.g., http://www.hc-sc.gc.ca/hcs-sss/prim/about-apropos-eng.php), the Department and AHS, as well as the Primary Care Initiative website (http://www.albertapci.ca/Pages/default.aspx).

Key entities and their roles in the PCN program

The Department's role is to:

- set PCN program objectives and types of services the program is to deliver
- allocate patients to PCN physicians based on patients' historical pattern of visits to those physicians and provide funding to the PCNs
- formerly through the Primary Care Initiative Committee, approve policies on the form and content of PCN business plans and performance reports—since April 1, 2011, the Department has direct authority to approve PCN program policies, in consultation with AHS and the AMA through the Interim Advisory Committee
- review and approve the plans and reports submitted by the PCNs
- evaluate PCN performance and be publicly accountable for the success of the PCN program overall

AHS's role is to:

- enter into joint venture agreements with groups of family physicians to form PCNs
- participate in the Interim Advisory Committee
- jointly with family physicians in the PCNs:
  - plan the delivery of each PCN's services based on local population needs and the PCN's service capacity
  - deliver primary healthcare services in different service areas, in new or expanded ways, or to different patient groups. PCN funding must go to services and programs not already provided by other entities.
  - prepare, approve and submit PCN business plans, budgets and annual reports to the Department, as per PCN grant funding agreements
  - monitor each PCN budget at the local PCN governance level

Family physician's role is to:

- manage daily clinical operations of the PCN
- jointly with AHS, fulfil governance responsibilities in the PCN (see above)
- provide patient services and programs in accordance with approved PCN business plans and in compliance with PCN program policies and expectations

The AMA's role is to:

- represent physicians in negotiations with the Department and AHS
- receive grant funding for, and oversee the operations of, the Program Management Office

Importance of physician engagement

Historically, the regional health authorities operated with very little daily operational contact with one of the main providers of primary healthcare in the province—family physicians. Before PCNs, there was no formal mechanism for the two parties to engage in joint planning and coordination of primary healthcare services. The PCN program was intended to help resolve this fragmentation.

The vast majority of family physicians in the province, including those who have hospital privileges at AHS, are self-employed service providers who are compensated by the Department on a fee-for-service basis—they are not employees of AHS. Physicians are accountable to the Department through the billing process, and are accountable to their patients and the College of Physicians and Surgeons of Alberta for the quality of the care and treatment they provide.

Family physicians represent over 50% of all physicians in Alberta. Decisions made by family physicians, directly and indirectly, have a significant impact on the overall cost and outcomes of healthcare in Alberta. The *Canada Health Act* stipulates that provinces must provide insured medical services, many of which are provided or initiated by physicians. This means that most medical treatment decisions can only be made by a physician. A family physician is often the

patient's first point of contact with the healthcare system. When a physician decides on a treatment, prescribes medical testing or makes a specialist referral, AHS or the Department pays for these services. Decisions made by family physicians therefore have immediate and long-term effects on the future demand and costs for all health services.

Findings and recommendations

Department's accountability for the PCN program

Background

In our view, a top performing healthcare system requires:

- clear definitions of service delivery expectations, measures and targets
- systems to measure and manage costs, activities, outputs and outcomes
- systems to report on program performance

Measurement and management of performance can be viewed at three basic levels:

- clinical programs within PCNs—Measures relate to service delivery levels and impacts on individual patients in individual programs. These are volume, type and quality of service measures focusing on relatively immediate patient outcomes.
- individual PCNs—Measures relate to factors under the direct control of the PCN, including the activities related to management and clinical decisions that impact the availability, volume, type and quality of services provided.
- overall PCN program level—Measures relate to the success of the program in relation to its core objectives and its impact on the healthcare system as a whole. This level of performance management is primarily the responsibility of the Department and AHS, and includes policy and governance activities that affect the resource inputs into primary healthcare.

Program evaluation requires information on:

- inputs (e.g., information on cost of services)
- processes and activities (e.g., use of electronic medical records and chronic disease registries, use of multidisciplinary teams, extended hours offered)
- outputs (e.g., number of screens, extended hours visits, program attendance, specialist referrals)
- outcomes (e.g., emergency visit reductions, reduced emergency revisits, acute care reductions, patient self-assessed health status, reduced overall costs over time)
- quality/compliance with good clinical practice (e.g., % screened, compliance with chronic disease management guidelines)

History of PCN performance evaluation

Accountability Monitoring Evaluation Working Group—The Primary Care Initiative Committee established this working group in 2005 to develop an approach for evaluating and reporting the progress of the PCN program. In 2006, the group released its program evaluation framework, setting out a comprehensive approach that could be used to measure the performance of PCNs across Alberta. The framework built on primary healthcare evaluation work done by the Canadian Institute for Health Information, tailored for Alberta's circumstances and the PCN program.[11]

Malatest Report—The AMEWG project culminated in a $1.9 million one-time evaluation study of the PCNs completed in 2010 by R.A. Malatest & Associates Ltd.[12] The Malatest Report noted various good practices and instances of favourable results, but the study was limited by lack of complete and comparable data across PCNs. For example, Malatest found many instances of PCNs engaging in desired activities such as the use of multidisciplinary teams, but had difficulty determining the outcomes of these practices on a comparable basis across PCNs.

[11] Canadian Institute of Health Information, 2006, Pan-Canadian primary healthcare indicators.
[12] http://www.albertadoctors.org/PresLet/malatest_summary_may

The key findings Malatest reported were generally not based on information from the PCNs because PCNs did not have the systems to produce this information. For example, Malatest reported:

- greater attachment of PCN patients to a regular family doctor, based on a patient survey by Malatest (91% of patients in a PCN vs. 81% among patients not served by a PCN)
- lower use of emergency department services by PCN patients, based on AHS data and supported by a patient survey by Malatest (46 visits/year per 100 population by PCN patients vs. 52 visits/year per 100 population by non-PCN patients)
- better use by PCN physicians of screening tools as part of health promotion and disease and injury prevention initiatives, based on data from the Toward Optimized Practice program administered by the AMA (PCN physicians compared to non-PCN physicians more commonly screened their patients for smoking [93% vs. 77%], tetanus/diphtheria immunization [59% vs. 33%], clinical breast exam [99% vs. 84%], mammography [96% vs. 85%] and bone density [63% vs. 44%])
- various measures reporting higher patient satisfaction among PCN vs. non-PCN patients, based on a patient survey by Malatest

Apart from the Malatest Report, the AMEWG evaluation framework has not been implemented.

Performance and Diligence Indicators Program—The PDI program was developed by the Department, AHS and the AMA to introduce a set of primary healthcare indicators in two phases. In Phase 1, physicians validated their patient panels. Over 1,350 physicians completed Phase 1 in the first two years, 2009–2010 and 2010–2011. In Phase 2, physicians were to report information on these measures for which they would receive incentive payments based on results achieved. Proposed PDI indicators included chronic disease screening, wait times for an appointment to see a family physician, and continuity of care measured by repeat visits to the same physician. In 2011–2012, the Department cancelled the PDI program and Phase 2 was not implemented.

Recommendation: Department's accountability for the PCN program

5 RECOMMENDATION

We recommend that the Department of Health:

- establish clear expectations and targets for each of the PCN program objectives
- develop systems to evaluate and report performance of the PCN program

Criteria: the standards for our audit

The Department should:

- provide clear objectives for PCNs, and review and approve additional objectives that may be proposed by the PCNs if they will help achieve the Department's goals
- provide or approve performance measures and targets for each objective of the PCN program—These measures and targets should be:
  - clearly linked to funding provided for key programs and services to be delivered by PCNs
  - specific, meaningful, reasonable and, where possible, focused on patient outcomes
- report publicly on the overall performance of PCNs for funds spent, including outputs and, where possible, improvements in patient outcomes

Our audit findings

Key findings

- The PCN program does not have defined service delivery expectations, performance measures and targets for individual program objectives.
- The Department and AHS have each done work on performance evaluation, but the work is fragmented and does not constitute an adequate performance evaluation system for the PCN program.

PCN program in the big picture

Primary healthcare improvement is one of the five key strategies outlined under *Becoming the best: Alberta's 5-year health action plan, 2010–2015*.[13] The five-year plan called for creation of a provincial primary care health plan by March 2012, but as of April 30, 2012 the plan had not been issued. PCNs are only one of many possible models of primary healthcare service delivery. Without knowing the provincial plan for primary healthcare, it is difficult to define how PCNs fit strategically within the Alberta healthcare system, and whether PCNs are developing along the right path.

Current reporting on the PCN program

The Department provides very little information on the performance of the PCN program. The Department and AHS each report a variety of measures related to the overall area of primary healthcare, but few of them relate directly to PCNs and none reflect on performance of the PCN program.

In its annual reports, the Department provides only basic statistics on:

- the number of PCNs in the province
- percentage of Alberta population informally assigned to PCN physicians
- percentage of family physicians linked to PCNs
- percentage of Albertans reporting that they have a personal family doctor

This information does not shed light on work done by PCNs, and does not show whether the PCN program overall is meeting its objectives. See Appendix D for examples of performance measures the PCN program could potentially use.

Expectations, measures and targets for the PCN program

The Department has not set service delivery expectations, measures and targets for the five PCN program objectives:

1. *Increase the proportion of residents with ready access to primary care*

   PCN responsibility for increasing access to primary healthcare is unclear because neither PCNs nor AHS know which patients are assigned to each PCN. The Department assigns patients to PCNs, but does not inform PCNs or AHS who it has assigned to their patient panels. PCNs and AHS can request information on individual PCN physician patient panels, but we saw few instances where this happened.

   The Department also does not define service or catchment areas that PCNs are responsible for. AHS zones are divided into geographic areas, while physician patient lists are based on the historical pattern of patient visits to those physicians. In rural areas of the province, a single PCN may include most physicians and patients in a given geographic area. However, over two thirds of Albertans live in and around urban centres, and may not see a family physician in the same area they live in. As a result, the nine PCNs in Edmonton and seven PCNs in Calgary do not know whether patients they provide services to are assigned to their PCN or not.

2. *Provide coordinated 24-hour, 7-days-per-week management of access to appropriate primary care services*

   The Department has not defined what it means to provide "24/7 access to primary healthcare" and has not set minimum service expectations. We observed significant variation among service providers in their views of appropriate 24/7 access to primary care. Some PCNs

[13] See http://www.health.alberta.ca/initiatives/5-year-health-action-plan.html

run community clinics during evenings and weekends, while others rely on HealthLink or a local emergency department to fulfill the 24/7 access expectation.

3. *Increase emphasis on health promotion, disease and injury prevention, and care of the medically complex patient and patients with chronic diseases*
The Department has not set expectations for the types of chronic diseases PCNs should focus on, service expectations in terms of patient numbers and type of service, and does not require PCNs to follow minimum clinical standards or guidelines, such as clinical practice guidelines approved by the AMA's Toward Optimized Practice program.[14]

   Promotion, prevention and care for chronic diseases includes a wide variety of activities and health conditions, some of which may not be a provincial health priority. Without clear expectations, PCN services for this objective could range from putting up information posters and distributing pamphlets, to comprehensive clinical programs with patient registries and multidisciplinary teams responsible for managing care of patients with diabetes or hypertension, for example.

4. *Improve coordination and integration with other healthcare services, including secondary, tertiary and long-term care through specialty care links to primary care*
The Department has not set clear expectations for the type and level of coordination and integration either in terms of wait times and ease of service navigation, or in terms of treatment outcomes. Without clear expectations, the concept of better coordination and integration with other service providers is open to interpretation. Knowing the names and phone numbers of other service providers in the area is viewed as an improvement by some PCN service providers, while others have established referral lists and designate staff to navigate patients through the healthcare system.

5. *Facilitate the greater use of multidisciplinary teams to provide comprehensive primary care*
The Department has not set expectations for the types of skills that multidisciplinary teams should have or the services they should provide. In combination with setting expectations for objective 4 above, this guidance is necessary to direct PCN workforce planning.

Systems for PCN evaluation—The Department does not have a system to evaluate the performance of individual PCNs, or the PCN program overall, in relation to program objectives. The Department also cannot assess PCN impacts on the demand for, and cost of, acute care and emergency department services in the province. The Department has some of the necessary data, but does not use it for evaluation.

PCN evaluation framework—Evaluation initiatives to date have not been adequate given the magnitude of the public investment and significance of the PCN program:

- The AMEWG evaluation framework has not been implemented or piloted.
- The Malatest Report was a one-time study and does not constitute an ongoing performance evaluation system.
- The Department's Performance and Diligence Indicators program was cancelled before the evaluation phase was implemented.
- PCNs have worked to develop their own evaluation systems to manage their clinical programs. In essence, there are 40 separate PCN measurement systems that do not share common performance measures, do not share definitions and rarely have targets. This prevents province-wide performance reporting and constitutes a significant duplication of effort and resources by the PCNs. The quality

[14] See http://www.topalbertadoctors.org/cpgs.php?sid=17&cpg_cats=74.

and sophistication of PCN evaluation systems varies widely, ranging from manually populated Excel spreadsheets to interconnected databases.

- Although the Health Quality Council of Alberta is not involved in or responsible for the PCN program, it has done work to measure performance of some PCNs in the province. The HQCA has compiled data from the Department, AHS and PCNs in an effort to provide program evaluation information to individual PCNs. For example, the HQCA has used PCN patient panel information to assess the impact of PCN extended hours access programs on AHS emergency department visits.

Cost effectiveness of the PCN program—One of the main benefits expected from an effective primary healthcare system is that early prevention and community treatment will help reduce the demand for, and associated cost of, relatively more expensive acute care services. The Department does not have a system to evaluate whether PCNs are having an impact on the overall healthcare costs of the patients allocated to them, although the Department and AHS collectively have the information to do this analysis.

By tracking individuals through the healthcare system using their unique identifiers, total healthcare costs over time for patients in PCN programs such as diabetes management can be calculated and compared to similar patients not in such programs, to help funders and providers understand:

- whether patients in PCN programs are relatively more or less expensive to the healthcare system than patients who are not, and how differences in costs may relate to outcomes
- the healthcare service areas, such as acute care, where the greatest proportions of patient costs are being incurred; for example, whether patients in PCN programs rely less on emergency departments and spend less time in hospital
- what the optimum level of funding should be for the PCNs

Implications for Family Care Clinics—As with the PCN program, all major initiatives in primary healthcare need clearly defined expectations and systems to measure and report performance. As the FCC initiative goes forward, the Department needs to consider the issues discussed above to determine the systems it will require to ensure FCCs are duly accountable and have adequate support to ensure their success.

Implications and risks if recommendation not implemented

Without clear objectives and performance measures to track activities and outcomes, the Department and AHS cannot provide meaningful evaluation of the success and cost-effectiveness of the PCN program. As a result, the Department will not have the critical information to make informed decisions on whether to change, expand or discontinue the PCN program.

AHS accountability for PCNs

Background

AHS is the Alberta government crown corporation responsible for the majority of healthcare service delivery in the province. It is the largest employer in the province. AHS's mandate is to:

- promote and protect the health of the population in Alberta and work toward the prevention of disease and injury
- assess on an ongoing basis the health needs of Alberta
- determine priorities in the provision of health services in Alberta and allocate resources accordingly
- ensure that reasonable access to quality health services is provided in and through Alberta; and
- promote the provision of health services in a manner that is responsive to the needs of individuals and communities and supports the integration of services and facilities in Alberta[15]

[15] AHS, December 2010, Alberta Health Services mandate and roles.

In 2012–2013, the Department will provide AHS with funding of $10.5 billion to deliver this mandate. The majority of this funding is used to deliver acute inpatient care in hospitals, emergency department services, long-term care, diagnostic imaging and laboratory services, and administrative support.

AHS is also the largest single provider of primary healthcare in the province. In 2010–2011, AHS spent $290 million on promotion and prevention programs, $800 million on community-based care programs and $400 million on home care programs. A portion of AHS's costs for diagnostic and therapeutic services, emergency services, laboratory services and ambulance services also involves or supports primary healthcare delivery. Examples of AHS's direct primary healthcare services include:

- home care services for certain patients discharged from hospital into the community
- HealthLink, the provincial 24-hour health information telephone service, which handled 758,971 calls in 2010–2011
- public health centres delivering child health, immunization, nutrition counselling, school dental and other services
- public health nurses providing maternal/child/family health, communicable disease control, school health and health promotion services
- health promotion programs for injury prevention and disease prevention, including stop smoking, healthy eating, active living and sun safety
- screening programs for breast, cervical and colorectal cancer
- immunizations or vaccinations for influenza, polio, measles, mumps, tetanus and other diseases
- child health clinics providing health education and counselling for parents, health assessment and screening, and referral to other healthcare providers
- prenatal services including counselling, education on nutrition, and information on Fetal Alcohol Syndrome prevention and effects
- community mental health programs including assessment, crisis intervention and stabilization, intervention services, and continuity of care
- chronic disease management (CDM) programs, including a Provincial Diabetes Plan, Provincial Obesity Strategy, registry systems to help manage and integrate care, and a diabetes program offering education, assessment and multidisciplinary care at a diabetes centre

Family physicians also provide a major portion of the primary healthcare services in the province, for which they receive more than $1 billion/year in fee-for-service payments from the Department. PCN funding has allowed family physicians to provide new services, and in some cases deliver services similar to those provided by AHS. It is in AHS's best interest to ensure PCN services align with its own primary healthcare services and contribute to the achievement of its objectives for primary healthcare and healthcare delivery overall.

PCNs represent a tremendous opportunity for AHS to:

- extend the breadth and depth of both AHS and family physician delivery of primary healthcare by working collaboratively to identify gaps and reduce overlaps
- collaborate more closely with family physicians to help patients transition between primary healthcare and acute care
- engage family physicians to increase their awareness of the impact their decisions have on the overall utilization and cost of healthcare services
- improve the effectiveness of its delivery of primary healthcare, with resulting benefits in AHS's acute care, emergency departments and other healthcare service areas

It is important for AHS to identify these potential benefits because they form the basis for setting objectives and targets for its involvement with PCNs.

As in any joint venture, the activities in each PCN will be driven by the goals and expectations of the parties to the joint venture. This recommendation focuses on whether AHS has clearly established what it expects to achieve through its participation in the PCN program, with respect to its provincial mandate to provide primary healthcare services to Albertans.

Recommendation: AHS accountability for PCNs

6 RECOMMENDATION

We recommend that Alberta Health Services within the context of its provincial primary healthcare responsibilities:

- define goals and service delivery expectations for its involvement in Primary Care Networks
- define performance measures and targets
- evaluate and report on its performance as a PCN joint venture participant

Criteria: the standards for our audit

AHS should clearly define its accountability relationship with PCNs, including its role as a PCN joint venture participant in preparing and approving PCN business plans, mid-year and annual reports, and ensuring execution of those business plans.

AHS should have systems to work jointly with physicians to prepare PCN business plans, budgets, mid-year and annual reports that are:

- designed to meet the needs of each PCN's service population
- prepared in accordance with the Department's expectations and submitted on time

Our audit findings

Key findings

- AHS has not defined clear corporate objectives, performance measures or targets for its work with PCNs, within the context of its provincial primary healthcare responsibilities.
- AHS does not provide meaningful reporting to its board or the public on its performance as a 50% joint venture participant in PCNs.
- The extent and quality of the data AHS uses in working with physicians to plan and evaluate PCN services can be improved.

AHS's objectives for its work with PCNs

AHS does not have clear corporate goals and targets for its joint venture participation in PCNs, and has not set a clear direction for what it wants to accomplish through PCNs.

AHS needs greater corporate focus on PCNs. For example, AHS's 2010–2011 annual report and 2011–2012 business plan provide very little information on PCNs and the services they offer, or the benefits AHS seeks to achieve through PCNs.

At the operational level, AHS's zone plans mention the need to create closer relationships with PCNs and in some cases outline initiatives in which PCN involvement is necessary. However, zone plans do not provide specific objectives, timelines, performance measures and targets for its work in PCNs. While AHS has drafted internal strategy documents,[16] it has not provided clear policy direction to its zone managers who represent AHS on PCN boards and governance committees.

[16] For example: AHS April 2010, *A discussion paper on primary care models* and AHS March 2011, *draft evaluation framework for primary care*.

AHS targets and performance measures

AHS has not defined performance measures and targets for its involvement in PCNs at the individual PCN, zone or provincial levels. AHS reports only one performance measure that is directly related to PCNs—the number of patients allocated to PCNs—and the information for that measure comes from the Department.

In Appendix D, we list examples of primary healthcare performance measures[17] and indicate measures applicable to AHS and for which AHS is the main source of information. For example, AHS has information on two measures that it could use to demonstrate PCN progress towards the objectives of improved access and improved prevention and chronic disease management. The measures of hospital admission rates for ambulatory care sensitive conditions and emergency department visit rates for family practice sensitive conditions could be, but are currently not, analyzed for differences between patients in PCN programs vs. patients who are not. Matching PCN program patients to its own records would help AHS assess whether PCN programs are having a positive impact in reducing these avoidable encounters. Similar analyses could be done for immunizations and screenings.

Performance reporting to the AHS board and the public

At the overall program level, AHS reports little information on PCNs to its board or the public. Except for statistics on the percentage of Albertans informally assigned to PCNs, AHS has no province-wide performance measures for the PCN program.

We found that various PCNs have developed a number of performance measures to manage the delivery of their individual clinical programs, but AHS does not compile or assess this information on an overall basis. The only summary information on PCN performance that AHS produces on a regular basis is a schedule in its financial statements showing PCN expenses by categories such as salaries and wages, supplies and services, which does not provide meaningful information on PCN programs such as the amounts spent on health promotion or chronic disease management. Current reporting to the AHS Board does not provide information on PCN clinical programs, service levels or patient outcomes.

Without this information, AHS cannot demonstrate to its board or the public what benefit AHS is achieving from its work with PCNs.

Information for planning

AHS provides PCNs with some information that is useful in planning PCN clinical programs. For example, AHS shares detailed demographic and chronic disease prevalence information for the PCN's geographic area. However, AHS could do more by sharing utilization information such as emergency department visits at local hospitals to help PCNs plan extended hours services.

Information for evaluation

AHS has extensive information on hospital, emergency, laboratory and other health services utilization, but shares very little of this information with PCNs to help them evaluate their performance. For example, a recent independent study compared 75,000 diabetics receiving treatment in a PCN with 75,000 diabetics not receiving their treatment in a PCN and found "care within a PCN was associated with a 20% reduction in the rate of admissions to hospitals and visits to emergency departments for diabetes-specific conditions."[18] The study also found areas in which the quality of diabetes care appeared suboptimal, suggesting opportunities for targeted education through PCN-directed programs.

[17] Our sources included: Canadian Institute for Health Information, the Accountability Monitoring Evaluation Working Group, the Department's PDI program, the Department's evaluation framework for Family Care Clinics, and elements of the patient-centered medical home as expressed by the College of Family Physicians of Canada and the AMA.

[18] Interdisciplinary Chronic Disease Collaboration, "How effective are Alberta primary care networks?" policy research brief, December 5, 2011.

This type of analysis provides valuable insight on whether PCN programs are effective and what they can do to improve, but AHS does not currently extract or analyze such hospital or emergency information or share it with PCNs for evaluation purposes. AHS could also analyze or provide PCNs with information including cardiovascular events and costs that could provide a more complete picture of the impact of PCNs on patients with chronic diseases like diabetes.

Implications and risks if recommendation not implemented

PCNs are a critical operational link for coordination and integration between AHS and family physicians in delivering primary healthcare. If AHS does not have effective systems to link PCN clinical programs with its own primary healthcare services, substantial improvement in AHS's delivery of primary healthcare services through PCNs will not be achieved.

Engagement of PCN patients

Background

To improve primary healthcare delivery, greater attention is being given to the role and responsibility of the patient in determining how healthcare resources should be used. Healthcare policymakers hope that a renewed focus on patient-centered care and shared decision-making by physicians and their patients will help increase the value of healthcare spending and improve patient outcomes and satisfaction.

The process of patient education and engagement in managing their own health, and making informed choices when treatments are indicated, requires that patients have:

- access to their own healthcare records
- information on the medical care services available from their healthcare providers
- general health and medical treatment information

Recommendation: engagement and accountability to PCN patients

7 RECOMMENDATION

We recommend that the Department of Health proactively inform Albertans which Primary Care Network they have been assigned to, and what services are available through their PCN.

Criteria: the standards for our audit

The Department should clearly define accountability relationships and reporting requirements for all parties involved in managing PCNs.

Our audit findings

Key findings

- Albertans are not informed that they are informally assigned to a PCN physician.
- Albertans are not informed about services their PCNs have to offer.

The Department does not proactively inform Albertans that they have been assigned to a PCN physician or inform Albertans about the services available through their PCN.

There is no mechanism for patients to find out with certainty which PCN they have been assigned to. Some PCNs post signs and make an effort to inform their patients that they are visiting a PCN physician office, but others do not. Some general information about the program is available on the PCN program website,[19] and many PCNs have their own websites. However, a patient is not likely to be aware of these websites if they are not aware of PCNs in general or that they are assigned to one.

[19] See http://www.albertapci.ca/Pages/default.aspx

Albertans need to be informed for the following reasons:

- Informing Albertans about their informal assignment to PCN physicians is consistent with the patient-centered care model adopted by the Department and AHS, and is necessary for patients' full engagement in decisions about their own healthcare.
- Informing Albertans about the public services available to them is a fundamental principle of good governance and accountability. An informed patient is a key component in the PCN accountability framework. The Department, AHS and PCNs need to work with the public to ensure alignment between what Albertans expect and what PCNs deliver.
- One of the key objectives of the PCN program is to form stronger attachments between patients and their PCN team to facilitate continuity of care. Few things could be more fundamental to creating this attachment than informing patients which physician they have been assigned to.
- If a PCN cannot meet the primary healthcare needs of its patients, they need to know they can go to another PCN that can deliver the value PCN funding is intended to provide.

Implications and risks if recommendation not implemented

If patients, as the intended recipients of PCN program benefits, do not know what services the program offers or how to access them, the benefits will not be fully realized.

Department's support to the PCN program

Background

Departmental systems to provide centralized assistance to PCNs can improve the economy and efficiency of the PCN program by avoiding the need for individual PCNs to reinvent solutions for similar problems. Individual PCNs do not have the Department's capacity, expertise, access to data and provincial perspective to help optimize their service delivery. The potential benefits of the Department's assistance are most apparent for smaller PCNs that generally lack the resources required to develop sophisticated service planning and evaluation systems on their own.

While the strength of PCNs lies in their ability to develop local solutions for local needs, the Department has the ability to provide common solutions for common needs. As funder, the Department is ultimately accountable for the PCN program and has a vital role to play in contributing directly to the program's success.

Recommendation: centralized support by the Department

8 RECOMMENDATION

We recommend that the Department of Health improve its systems to provide information and support to help Primary Care Networks and Alberta Health Services achieve PCN program objectives.

Criteria: the standards for our audit

The Department should ensure that PCNs have access to sufficient and timely information to set meaningful performance measures and targets.

Based on cost/benefit considerations and where the information is generated or resides, the Department should determine what data it should supply to PCNs, what data AHS should supply to PCNs, and what data PCNs should develop internally.

Our audit findings

Key findings

- The Department assigns patients to PCN patient panels but does not proactively inform the physicians, the PCNs or AHS which patients have been assigned to the PCN physician panels.
- Data sharing between the Department, AHS and PCN physicians is limited, and systems to do so are not well developed.
- The Department is not capitalizing on existing opportunities to help guide and support PCN planning and evaluation efforts.

Informing PCNs who their patients are

The Department does not proactively provide patient panel information to PCNs to more fully assist them in service planning and evaluation. The Department allocates patients to PCN physician panels based on patients' visits to the physicians. The Department tells PCN physicians how many patients their PCN will receive funding for, but does not provide the physicians, the PCNs or AHS with a list of those patients. The Department also does not define service/catchment areas PCNs are responsible for.

PCNs need to know which patients they are receiving funding for to properly plan service delivery and measure progress. PCNs cannot be accountable for the outcomes of their service if they do not know what patients they are responsible for.

AHS zones are divided into geographic areas. In rural areas of the province, a single PCN may include most physicians and patients in a given geographic area. However, over two thirds of Alberta populations live in and around urban centres, and may not see their family physician in the same area they live. For example, someone who lives in Airdrie may have their family physician in Calgary. As a result, multiple PCNs in Edmonton and Calgary have no way of knowing whether the patients they provide services to are informally assigned to their PCN or not.

Informing AHS who PCN patients are

The Department does not proactively provide patient panel information to AHS to allow it to more fully assist PCNs in service planning and evaluation. For example, AHS currently provides PCNs with summary information on the incidence of chronic diseases such as diabetes in each PCN's geographic area. This information would be much more useful if it identified the specific patients in each PCN physician's panel that have these conditions. Another example is AHS's Provincial Obesity Business Plan 2011–2016, which states "Primary Care physicians and PCNs should be assisted (by AHS) to actively monitor their patient panels to identify patients at risk due to weight, mental health, or lifestyle issues, and those already overweight or obese who may benefit from interventions."

As discussed on page 41, for AHS to assess the impacts of PCN programs on the overall utilization of its services, it needs the ability to track PCN patients through its acute, emergency, long-term and home care service areas.

Sharing of health data between the Department, AHS and PCN physicians

The Department, AHS and PCN physicians share very little health data critical for planning, delivering and evaluating PCN services.[20] PCN physicians have access to healthcare information on individual patients in their care, but do not know who is on their assigned patient panel. To effectively plan and evaluate their services they need information on their patient panel, such as:

- demographics and chronic conditions (available from the Department and AHS)
- frequency and reasons for emergency department visits (available from AHS)
- frequency and length of hospitalizations (available from AHS)

[20] Standard algorithms can be used to anonymize patient identifiers to share and track patient conditions and treatments across the system without disclosing a patient's identity.

- frequency of visits to other healthcare providers (available from Department and AHS)
- frequency and reasons for physician visits (available from physician records and the Department)

The Department has a wealth of health data that would be very useful to PCNs in planning and evaluating their services, but does not have systems to share this data with PCNs or help them analyze it. For example:

- The Department's Population Health unit analyzes healthcare service data to determine which Albertans have chronic diseases.
- The Alberta Health Care Insurance Plan database has information on all physician services received by patients.
- The Department has developed public health databases to record immunizations and patients who require and have received screening services.

AHS has a wealth of health data on emergency department utilization, hospital inpatient services, and the various community health services it provides, but does not have a system for sharing this with the PCNs. This information would be very useful for both planning and evaluating PCN services. Further details on AHS activities are provided in Recommendation No. 6 (page 40).

PCN physicians have patient-specific information critical for planning and evaluating PCN services. The ability of physicians to access and share this information in a practical way is constrained by whether they have electronic medical records, and what capabilities their EMR systems have. Apart from physician billings, there is no system for the Department or AHS to access generic patient information held by physicians, such as the numbers of patients monitored for chronic conditions.

Privacy issues

We considered whether there are legal barriers to sharing healthcare information and whether there are mechanisms to ensure this information is used appropriately and is adequately protected.

Alberta's *Health Information Act* allows sharing of personal health data for treatment planning and program evaluation purposes. In response to our enquiries, the Office of the Information and Privacy Commissioner of Alberta indicated that a formal process exists to share patient data. The parties must submit a Privacy Impact Assessment to the Office of the Information and Privacy Commissioner. The Office will accept the Privacy Impact Assessment if entities demonstrate a legitimate purpose for sharing the data, its use will be limited to that purpose, and the data will be properly safeguarded.

Opportunities to better support PCN program planning and evaluation

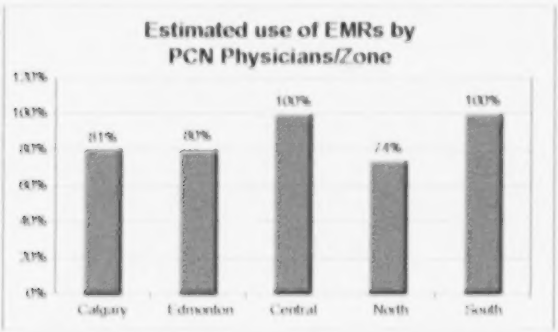
Electronic medical records—An EMR is a computerized medical record created in a health facility or physician's office. EMRs tend to be a part of a local stand-alone health information system that allows storage, retrieval and modification of records. EMRs assist Alberta's family physicians by facilitating improved business processes and clinical management.

Information systems are being increasingly used in primary healthcare to increase efficiency and improve the quality and speed of information. Information technology such as EMRs helps clinicians improve outcomes and adhere to recommended care guidelines for patients with chronic diseases such as diabetes.

EMRs are a fundamental building block of comprehensive patient management systems to track patient histories relative to established clinical practice guidelines and care maps, automate reminders to notify patients for recommended care, and support increased coordination of care between health professionals. EMR benefits include:

- better access to patient medical history, both in a clinic setting and remotely
- bringing evidence-based information and practices to the point of care where they can be used to improve services and patient outcomes
- reduced duplication of medical tests
- easily accessible records of dispensed medications during patient visits, helping to reduce prescription errors
- alerts and reminders for patient tests and results follow-up
- greater connectivity with the provincial electronic health record system (Netcare) for province-wide evaluation of programs

The average rate of EMR adoption across all PCNs is 84% (number of PCN physicians using EMRs divided by the total number of PCN physicians).[21]



This indicates that PCN physicians are generally more progressive than non-PCN physicians in using EMRs. For example, in its 2010–2011 annual report, the Department estimated that Alberta physicians' overall EMR adoption rate was 53%.

While PCN physicians have relatively higher EMR adoption rates than non-PCN physicians, we found:

- Not all PCN physicians using EMRs were using one of three vendor solutions approved as compliant with the Physician Office System Program's technical, security and privacy requirements.[22]
- PCNs often did not know whether individual PCN physicians had, or were using, chronic disease management functionality in their EMR systems.
- PCN physician EMR systems were generally not used by their PCNs to collect and report performance information such as screening rates and compliance with clinical practice guidelines.
- Connectivity between PCN physician EMR systems and the province's Netcare system was not being used by all PCN physicians, in part because Netcare's current ability to download information into EMRs is limited.

Robust and fully functioning EMR systems are essential for sustained efficiency gains in PCN program delivery and meaningful performance reporting on results.

Centralized specialist referral system–The Department has not yet developed a centralized specialist referral system for family physicians. As the custodian of the physician billing information, the Department is in the best position to coordinate the development of such a referral system.

[21] Data comes from two sources—the number of PCN physicians using EMRs (AHS) and the total number of PCN physicians per zone (Department). The data is not perfect because some physicians serve in multiple zones.

[22] POSP is funded by the Department to subsidize physicians in adopting EMRs (70% of cost over five years). In addition to financial support, POSP helps physicians with change management, data management and privacy obligations as they implement EMRs. Through stakeholder consultation, POSP has developed EMR Vendor Conformance and Usability Requirements, which are a set of functional requirements and technical, security and privacy requirements. From 2005–2006 to 2010–2011, POSP paid $162 million to physicians to subsidize EMR adoption.

In the absence of a centralized specialist referral system, family physicians generally refer their patients to specialists they know or can find in their geographic area. When physicians make such referrals, they may not know how long the waiting lists are for individual specialists, and may not be able to systematically direct their patients to specialists with the shortest wait times. A specialist may also require the patient to repeat medical tests if the referral wait time is too long.

We found several PCNs have developed their own lists of specialists and several had joined together to share their lists. The Department's planned province-wide database of specialists, to be completed by March 31, 2013, is urgently needed.

Population health status—Information on patients' self-rated health status can be valuable in assessing whether PCN programs are having a positive impact on patient outcomes. By periodically sampling a representative cohort of Albertans on an ongoing basis over time using generally accepted assessment tools such as SF-12,[23] the Department could provide PCNs with information to allow them to evaluate whether patients themselves find PCN programs beneficial to their physical and mental health.

Workforce planning—Workforce planning is one of the areas where PCNs are lacking centralized support. Using diabetes as an example, the table on this page shows how structured workforce planning can ensure consistent and appropriate allocation of primary healthcare resources across the province.

WORKFORCE PLANNING [24]

Step 1: Determine health status of the region

Using the best available data, establish health status of the service population re diabetes and protocols for prevention and management (e.g., number of persons by diabetes type and stage).

Step 2: Define best practice care

Use clinical practice guidelines for diabetes management, identify roles of various providers (e.g., family physician, nurse, dietitian, pharmacist). Consider whether objective is best practice or "acceptable" care and implications of this decision on resourcing, outcomes and total cost.

Step 3: Translate best practice protocols into resource requirements per patient

Determine hours by health provider/year for a patient at each disease stage.

Step 4: Translate resource hours into an FTE requirement for each provider type

Combine annual hours for each provider per patient with estimated numbers of persons in each disease type and stage.

Step 5: Match FTE requirements with current supply

Match FTE requirements with health workforce, distribution of population, and alternative approaches to program delivery.

Step 6: Calculate required budget

Determine funding level required to support the projected service requirement. Compare with current resourcing levels. Consider possible funding sources and alternatives.

Step 7: Evaluate and adjust

Plan periodic evaluations and revise services based on evidence of diabetes prevalence and effectiveness of treatment programs.

[23] SF-12 is a 12-question survey developed by QualityMetric. It assesses physical functioning, role limitations due to physical health, bodily pain, general health perceptions, vitality, social functioning, role limitations due to emotional problems and mental health. It yields scale scores for each of these eight health domains, and provides two summary measures of physical and mental health.

[24] Leonie Segal, Kim Dalziel and Tom Bolton, 2008, "A workforce model to support the adoption of best practice care in chronic diseases—a missing piece in clinical guideline implementation," *Implementation Science*, 3:35.

Implications and risks if recommendation not implemented

If the Department does not do all that it reasonably can to provide PCNs with the information and tools they need to plan, deliver and evaluate their services, the PCN program will not be able to perform as efficiently or effectively as it could, and the achievement of program objectives may ultimately be compromised.

Department's oversight of PCNs

Background

PCN program policies set out the types of allowable expenditures PCNs can use their funding for (see Appendix E). The Department needs assurance that PCN expenditures comply with the financial and operating policies of the program, and that reported financial and clinical performance information is accurate. This assurance comes from four sources:

- the Department's expectation that AHS, through its direct involvement as a 50% joint venture participant in PCNs, will oversee PCN activities at the local level
- the Department's expectation that the Program Management Office will review PCN business plans, budgets and annual reports for alignment with program objectives
- the Department's own review of PCN business plans, budgets and reports, and any other compliance activities it carries out on PCNs
- an annual audit of each PCN by an independent accountant engaged by the PCN

The Department provides per capita funding to PCNs from the time they are formed. Most PCNs do not fully use their funding in their early years when programs are in development and staff members are being recruited. As a result, many PCNs have accumulated significant surpluses. In the short term, these surpluses may increase further while PCNs develop plans to use the additional $12 annual per capita funding announced in February 2012 after their 2012–2013 budgets had been prepared.

In 2009, the Department approved a surplus reduction policy issued by the Primary Care Initiative Committee. The policy required all PCNs to submit a three-year surplus reduction plan and to report their use of funds relative to those plans. The policy set out allowable uses for surpluses, including pilot projects, leasehold improvements to develop program space, education and training for clinical teams, and information systems development. The intention was that expenditures be for capacity building purposes or one-time costs, rather than ramping up core programs and ongoing costs to unsustainable levels.

Recommendation: Department's systems to oversee PCNs

9 RECOMMENDATION

We recommend that the Department of Health improve its systems for oversight of Primary Care Networks by:

- obtaining assurance that PCNs are complying with the financial and operating policies of the PCN program
- ensuring PCN surplus funds are used in a timely and sustainable manner

Criteria: the standards for our audit

The Department should:

- clearly define accountability relationships and reporting requirements for all parties involved in managing PCNs
- have systems to:
  - provide guidance on the form and content of PCN business plans and budgets
  - review and formally approve PCN business plans and budgets to ensure they are consistent with PCN program objectives
  - review PCN mid-year and annual reports, and other information from AHS or its own sources to obtain assurance that:
    - PCN funding is spent in accordance with project objectives
    - individual PCNs are meeting their performance targets and achieving the objectives established by the Department
    - take appropriate and timely action if a PCN is unable to meet its performance expectations or fails to comply with the Department's requirements

Our audit findings

Key findings

The Department does not have adequate systems to obtain assurance that:

- PCN financial and clinical performance information is accurate
- PCNs expenditures comply with program policies, approved business plans and budgets

The Department has not provided sufficient direction to PCNs to ensure their surpluses are used in a timely manner. We found:

- Some PCNs are now incurring unsustainable deficits that may require cuts to clinical programs when surpluses are drawn down.
- The Department's rationale for freezing $16 million of PCN assets to fund PCN closing cost reserves is unclear.

Assurance on PCN compliance with program policies

The current combination of oversight and audit activities by parties to the PCN program does not provide the Department with adequate assurance that PCNs are complying with PCN program policies.

Role of AHS in providing assurance—The Department informed us that it expects AHS to oversee PCN operations, verify adequate internal controls are in place, and ensure expenses comply with program policies. We found that AHS's current level of involvement in PCNs does not provide the level of assurance the Department expects.

Under PCN joint venture agreements between AHS and physicians, the physicians are generally responsible for day-to-day PCN operations, management of clinical programs and overall execution of the PCN business plan. AHS views its role as that of a strategic partner and advisor. While this role may be consistent with the joint venture agreements, AHS's lack of involvement in daily operations does not allow it to exercise direct oversight of financial and clinical performance information. AHS currently does not have other means to provide the assurance the Department expects.

The Department also needs to manage the risk that AHS may shift some of its costs to PCNs. While integration of services between AHS and PCNs is a critical success factor for the program, program policies clearly state that PCN funding is not to be used for services AHS is already funded for. Because this risk relates to AHS, the Department needs assurance from another source that this is not occurring.

Role of the Program Management Office—There is lack of clarity about the current role of the PMO in relation to its review of PCN business plans, budgets and annual reports.

The PMO assists PCNs in their preparation of business plans and reports, and reviews copies of the final versions of these documents at the time they are submitted to the Department. Based on its review, the PMO provides a briefing memo to the Department, AHS and the AMA to assist the Department in its decisions to approve PCN plans and reports.

Although the Department continues to fund the PMO's $1.8 million annual budget, it has little knowledge of the review procedures performed by the PMO. The Department does not rely on reviews done by the PMO in making approval decisions. The Department communicates its information requests and decisions directly to PCNs or the PMO. In some cases, PCNs find there is duplication in questions posed by the Department and the PMO.

Department's review process—Current templates and guidance prescribing the information PCNs are to submit in their business plans and annual reports do not provide the Department with sufficient detail to adequately evaluate PCN compliance with program policies.

We found that the Department's analysts are conscientious in reviewing PCN accountability documents. However, in many cases the information in PCN business plans and annual reports is not sufficiently clear to allow the Department to determine whether a planned program or expenditure is appropriate. For example, we found the following:

- In some instances, PCN physician compensation programs did not fully describe services to be rendered. For some programs, it was not clear what the physicians were delivering in addition to what they were already being paid for through other PCN compensation programs or fee-for-service payments from the Department.
- The expense category "Administration" was in some cases 10 to 20% of PCN expenses but lacked detail as to the nature of costs incurred.
- PCN surplus reduction plans are not clearly set out in a way that allows the Department to monitor the extent to which surpluses have been used for the purposes intended (see Surplus Reduction Plans on following page).

With improved reporting templates and clearer guidance, the Department will be better able to assess PCN policy compliance. The Department will also need to develop procedures to assess the accuracy of PCN clinical performance information.

Under the Health and Wellness Grants Regulation,[25] the Departmen has the authority to audit the books and records of the PCNs with respect to the use of PCN grant funding. Until the spring of 2012, the Department had not done so. The Department's first site visit for compliance testing purposes began shortly before we completed this report.

PCN annual audits

As currently performed, PCN audits do not provide direct assurance that PCN expenditures comply with the eligibility rules of the program, and do not examine any clinical performance information reported by the PCNs.

The majority of PCN audits examine general purpose financial statements, which do not correspond with the program categories and expense classifications reported in PCN budgets and year-end reports. The Department could get greater value from these audits if PCN auditors were asked to:

- examine PCN annual report financial schedules
- test a sample of PCN expenses for compliance with program policies
- submit to the Department a copy of the auditor's management letter with observations and recommendations to improve internal controls

[25] AR146/2002

Surplus Reduction Plans

By March 31, 2009, PCNs had amassed total surpluses of $78 million. In the subsequent two years, PCNs did not fully execute their SRPs and surpluses have persisted. At March 31, 2011, 38 of the 39 PCNs reported surpluses of more than $80 million in total. The Department needs to revitalize the SRP policy to encourage PCNs to use these idle funds in a sustainable and timely manner.

Sustainability

We examined several SRP initiatives and found:

- many initiatives appeared appropriate because they were for one-time or temporary costs, but some were not well described or appeared to be extensions of core programs
- although SRP budgets and costs were reported in 2009–2010, the 2010–2011 PCN annual reports generally lacked sufficient information to track SRP expenditures relative to plans
- some PCNs have increased spending in core programs to use their surpluses, creating structural deficits that may require significant program cuts to meet expenses

The Department needs to provide clear guidance to PCNs on how they can spend their surpluses without creating structural deficits. The Department also needs PCNs to report their surplus reduction initiatives in a way that allows the Department to track these expenditures separately from ongoing PCN operations to ensure SRP initiatives are carried out and surpluses are not being applied to core operations.

Closing cost reserves—The PCN program policy on closing cost reserves has resulted in $16 million intended for primary healthcare being frozen in PCN bank accounts.

PCN grant funding agreements require PCNs to hold the Minister and the Minister's employees and agents harmless from any and all claims, demands, actions and costs whatsoever that may arise in carrying out the purposes of the agreement. PCNs are required to retain a closing cost reserve approximating staff severance and lease obligation costs if the PCN were to cease operations.

At March 31, 2011, PCNs in total had set up closing costs reserves of $16 million. We found the average reserve was 23% of annual manpower costs, but there was wide variation in the amounts individual PCNs had calculated. These variations indicate lack of guidance to PCNs on what an appropriate reserve should be, or ineffective monitoring by the Department when approving PCN plans that establish the reserves.

The Department has instructed PCNs to set aside a portion of their funding to fully cover these unlikely future costs. An alternative would be to fund PCNs closing costs if and when they come due.

Implications and risks if recommendation not implemented

The Department needs assurance that PCN funding has actually been spent for the purposes intended. Without such assurance, ineffective or inappropriate expenditures may go undetected and the achievement of program objectives could be compromised.

Without clear guidance on appropriate use of surpluses and effective monitoring of PCN surpluses and surplus reduction initiatives, public funding for the program may not be effectively used on a timely and sustainable basis.

Appendix A—Structure of the PCN Program

Legal framework for the PCN program

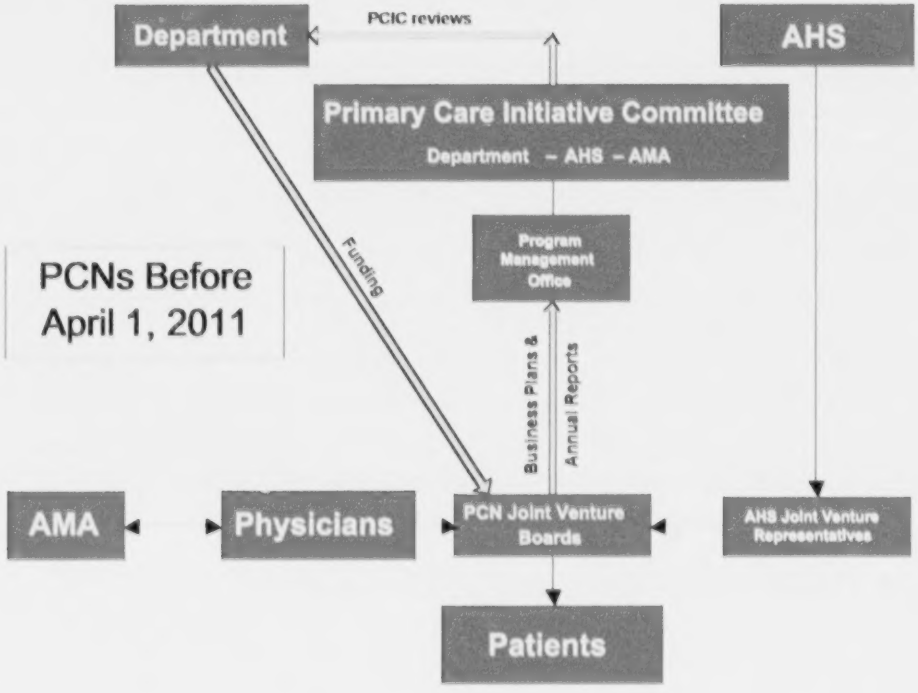
The legal framework for the PCN program is set under the following agreements:

- Tri-lateral Master Agreement between the Department, AHS and AMA (expired on March 31, 2011)
- PCN joint venture agreements between AHS and physicians
- grant funding agreements between the Department on one side, and AHS and physicians on the other

Tri-lateral Master Agreement 2003 - 2011

The Tri-lateral Master Agreement between the Department, AHS and the AMA provided the overall legal framework and funding provisions for the PCN program. Under the Tri-lateral Master Agreement, the Primary Care Initiative Committee was responsible for establishing PCN guidelines and policies, and reviewing and approving PCN business plans, budgets and reports. The committee was comprised of representatives from the Department, AHS and the AMA, and committee decisions were made by consensus of the three parties (see diagram below).

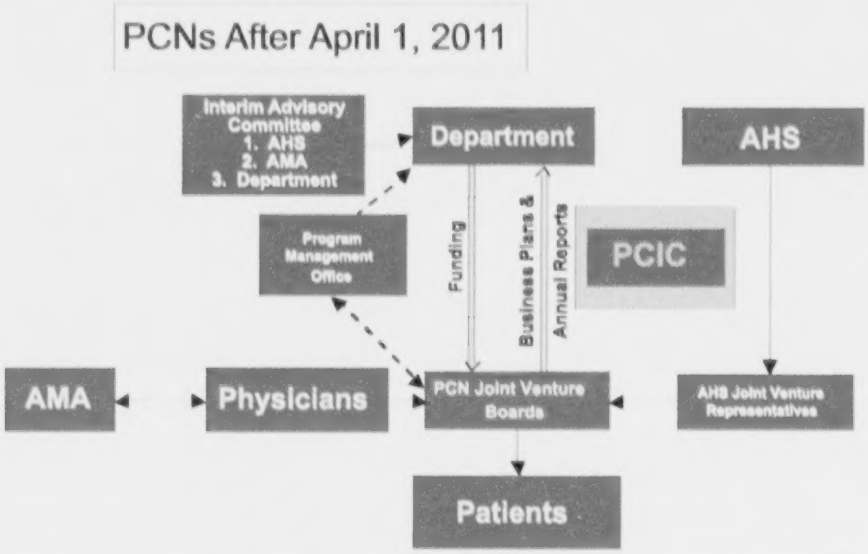
Before April 1, 2011



The work of the committee was supported in part by the Program Management Office, which was staffed through the AMA and funded by the Department. The main role of the PMO was and continues to be to assist individual PCNs in preparing their business plans, budgets and reports. The grant agreement between the Department and the AMA sets out details of the PMO's role.

Since April 1, 2011

The second significant change came on April 1, 2011 with the expiry of the Tri-lateral Master Agreement between the Department, AHS and AMA. From that moment, the PCN program governance model changed fundamentally (see the table below).



Following the expiration of the tri-lateral agreement, the Primary Care Initiative Committee was dissolved and the Department has assumed sole authority for PCN governance. From April 1, 2011 to June 30, 2011, an Agreement in Principle was in place between the Department, AHS and the AMA. Since July 1, 2011, an Interim Advisory Committee consisting of all three parties provides advice to the Department. Although the Department is the sole funding and approval body, it requests feedback from the AMA and AHS before it approves PCN business plans, budgets and reports.

The PMO continues to function as an advisory body to the PCNs; for example, it assists with business planning and reporting, a role for which it continues to receive about $1.8 million/year in funding from the Department.

While negotiations over a new agreement are underway, the Department has reached an interim arrangement with AMA and AHS that no significant operational changes will be made to the PCN program until a long term agreement with physicians is reached. The Interim Advisory Committee provides a forum where issues can be raised and resolved collaboratively. However, the IAC does not have decision making authority at present. The governance structure going forward will depend on the results of negotiations between the Department, AHS and the AMA.

PCN joint venture agreements between AHS and physicians

Joint venture agreements between AHS (at the time regional health authorities) and physicians are a legal vehicle for creating and operating PCNs. PCNs are legal entities formed under these agreements, are recipients of PCN funding and are jointly operated by AHS and physicians.

PCN grant funding agreements

As of April 1, 2011, grant funding agreements are between the Department (the funder) on one side, and AHS and physicians (funding recipients) on the other. Under these agreements, AHS and physicians jointly are recipients of PCN funds to implement PCN business plans.

Appendix B—PCN Facts and Figures

Depending on their location (urban vs. rural) and other factors, PCNs vary in size with respect to the patient populations they serve and the number of service priorities they are able to meet. Chronic disease initiatives, health promotion, women's health, mental health and geriatrics are common across several PCNs. Various health professionals (e.g., nurse practitioners, nurses, LPNs, dietitians) have been hired to work with PCN physicians in multidisciplinary teams.

PCN (Head Office)	Patients Assigned at Mar.31/11	Physicians at Mar.31/11	Average # Patients per Phys.	PCN 2010-11 Financial Information per annual reports ($ in thousands)							
				Other Direct Provider FTEs	Other Direct Provider to Phys ratio	Revenue	Payments to Physicians	Payments to Other Direct Providers	Other Expenses	Net Income (Loss)	Accumulated Surplus (Deficit)
Calgary Zone											
Calgary Foothills	313,021	272	1,151	49.9	0.19:1	$17,700	$8,286	$4,036	$7,797	$(2,389)	$(479)
Calgary West Central	285,593	273	1,046	41.3	0.16:1	14,986	7,862	3,531	5,139	(1,535)	4,606
Mosaic (Calgary)	132,634	98	1,382	27.0	0.29:1	6,594	1,787	1,985	1,580	1,281	5,082
South Calgary	115,401	110	1,049	11.6	0.11:1	5,711	1,851	1,182	2,656	23	1,369
Calgary Rural	100,891	115	877	25.0	0.22:1	5,251	1,657	2,499	1,791	(696)	1,580
Highland (Airdrie)	46,737	41	1,140	8.7	0.22:1	2,525	539	753	685	548	2,148
Bow Valley (Canmore)	24,302	34	712	5.5	0.17:1	1,233	304	386	346	217	1,298
	1,018,479	941	1,082	169.0	0.18:1	54,010	22,236	14,322	20,003	(2,551)	$15,802
Edmonton Zone											
Edmonton North	156,464	117	1,337	36.5	0.31:1	8,442	1,636	2,587	3,795	425	12,158
Edmonton Southside	142,285	139	1,103	40.9	0.32:1	7,122	1,737	4,102	1,338	(55)	5,587
Edmonton West	101,474	87	1,166	22.9	0.27:1	4,836	1,539	2,183	840	274	2,864
Sherwood Park	82,363	68	1,248	24.7	0.38:1	4,203	342	2,324	2,014	(397)	1,439
St. Albert & Sturgeon	77,032	53	1,453	21.5	0.41:1	4,080	1,157	1,955	1,279	(311)	1,663
WestView (Stony Plain)	68,875	70	984	30.9	0.53:1	4,091	1,207	2,162	1,251	(529)	4,338
Leduc	53,905	49	1,102	10.2	0.21:1	2,929	1,015	889	1,775	(750)	1,049
Edmonton Oliver	49,663	61	814	23.2	0.39:1	2,836	593	2,303	894	(854)	2,358
Alberta Heartland (Ft. Sask)	34,355	27	1,272	8.1	0.31:1	1,737	152	544	755	287	1,115
	766,506	659	1,163	224.9	0.35:1	40,346	9,377	19,137	13,741	(1,909)	$32,572
Central Zone											
Red Deer	103,988	69	1,507	19.3	0.28:1	5,382	1,878	1,572	2,606	(663)	5,062
Wolf Creek	53,970	46	1,173	12.9	0.28:1	2,717	779	905	1,057	(23)	1,714
Big Country	37,479	28	1,339	9.1	0.33:1	1,977	685	688	646	(27)	835
Wetaskiwin	24,164	23	1,051	-	-	689	22	-	107	560	557
Camrose	23,214	20	1,161	5.2	0.26:1	1,165	288	389	700	(221)	2,441
Rocky Mountain House	14,008	14	1,000	4.8	0.34:1	929	51	486	337	56	280
Lloydminster	13,479	14	963	-	-	168	2	-	22	145	145
Kalyna (Vegreville)	6,182	6	1,030	0.4	0.07:1	259	6	9	118	126	126
Vermilion	5,613	4	1,403	-	-	160	2	-	17	142	142
Provost	5,166	2	2,583	1.1	0.57:1	268	57	73	59	80	343
	287,271	226	1,271	52.7	0.24:1	13,724	3,746	4,133	5,666	180	12,546
North Zone											
Wood Buffalo (Ft. McMurray)	55,560	32	1,736	13.8	0.44:1	3,246	232	1,429	1,545	40	721
Grande Prairie	42,178	30	1,406	-	-	1,057	28	-	165	865	865
St. Paul/Aspen	38,007	29	1,331	7.9	0.28:1	2,194	465	473	1,000	158	1,310
Northwest (High Level)	25,356	37	685	2.0	0.06:1	1,396	312	280	315	369	1,002
McLeod River (Edson)	24,798	26	954	3.0	0.12:1	1,195	166	294	316	419	600
Athabasca	21,387	21	1,018	3.7	0.18:1	1,073	190	71	45	766	766
Peace River	18,922	19	996	7.3	0.39:1	953	53	456	253	191	329
Bonnyville	12,100	14	864	6.1	0.44:1	701	86	532	266	(183)	330
Cold Lake	12,000	7	1,723	-	-	442	8	-	101	333	333
Siksmith	10,145	8	1,268	0.6	0.08:1	392	75	112	45	160	219
West Peace (Hythe)	9,202	6	1,534	3.0	0.51:1	450	95	207	124	24	194
	270,315	229	1,180	47.5	0.21:1	12,969	1,708	3,855	4,274	3,132	7,274
South Zone											
Chinook (Lethbridge)	121,934	98	1,244	69.0	0.71:1	6,182	385	4,638	3,030	(1,871)	6,889
Palliser (Medicine Hat)	88,909	63	1,411	34.5	0.55:1	4,539	430	2,751	1,877	(525)	5,595
	210,843	161	1,309	103.5	0.65:1	10,721	871	7,389	4,907	(2,396)	12,484
Total	2,553,394	2,216	1,152	597.6	0.27:1	$131,770	$37,888	$49,836	$48,591	$(3,544)	$80,448

Sources: Department's September 2011 PCN funding allocation data and PCN 2010-2011 annual reports.

Appendix C—PCN Patient Allocation and Services

PCN patient allocation

The Department uses a "four-cut" method to assign patients who have received service(s) from one or more PCN physicians in the last three years. The allocation process basically assigns patients to the PCN of the physician they have seen most, with subsequent "cuts" used if the first cut is not determinative. As of March 31, 2011, there were 2.5 million patients assigned to PCNs, which is less than the Department's target of 80% of Alberta's population of 3.7 million.

There are four steps used to assign patients to physicians:

Step 1: Patients who have seen one PCN physician only are assigned to that physician.

Step 2: Patients who have seen more than one PCN physician, but one physician is predominant, are assigned to the physician they have seen the most.

Step 3: Patients who have seen more than one PCN physician, the same number of times each, are assigned to the physician who did their most recent physical exam.

Step 4: Patients who have seen more than one PCN physician, the same number of times each but had no physical exam, are assigned to the physician who saw the patient most recently.

Services PCNs are expected to provide

PCNs organize their resources to operate priority initiatives based on the local health needs within their geographic area. Services must be outlined in each three-year business plan and include:

1. Basic ambulatory care and follow-up
2. Care of complex problems and follow-up
3. Psychological counselling
4. Screening/chronic disease prevention
5. Family planning and pregnancy counselling
6. Well-child care
7. Obstetric care
8. Palliative care
9. Geriatric care
10. Care of chronically ill patients
11. Minor surgery
12. Minor emergency care
13. Primary in-patient care including hospitals and long-term care institutions
14. Rehabilitative care
15. Information management
16. Population health
17. 24-hour, 7-days-per-week management of access to appropriate primary care services
18. Access to laboratory and diagnostic imaging
19. Coordination of home care emergency room service, long-term care, and public health
20. Acceptance into the Primary Care Network's patient population and provision of the service responsibilities to an equitable and agreed upon allocation of unassigned patients

Appendix D—Examples of Potential PCN Performance Measures

Objectives and Performance Measures Examples	Stakeholder				Source
	PCN	AHS	AHW	Public	
Objective 1: Access					
Number of patients enrolled in the PCN	x	x	x	x	AHW
% of population in the PCN's catchment area who have a personal family physician	x	x	x	x	PCN
Number of PCN physicians who are accepting new patients	x	x	x	x	PCN
Average wait time for an appointment (or third next appointment) with a PCN patient's family physician • Urgent acute episodic care • Routine or ongoing care	x	x	x	x	PCN
Continuity of care – % of patients visits to own family physician or own family physician's clinic	x	x	x		AHW
Objective 2: 24/7 Extended Hours					
Number of patients who are seen during extended hours by the PCN by acuity (e.g., CTAS classification)	x	x	x	x	PCN
Number of PCN patients who access telephone advice (HealthLink) and their disposition by service received (e.g., advice only, referred to urgent care, referred to emergency, given next day appointment)	x	x	x		AHS
Extended hours offered by the PCN by type of services (e.g., Help line linked to PCN, on-call service by PCN physicians for all PCN users or vulnerable groups, on-site service by PCN physicians)	x	x	x	x	PCN
Emergency mental health services provided by the PCN by either PCN physicians or a mental health therapist	x	x	x	x	PCN
% of emergency department and urgent care centre visits by PCN patients for family care sensitive conditions (e.g., conjunctivitis, migraine)	x	x	x	x	AHS
Objective 3A: Promotion and Prevention					
Vaccinations of PCN and non-PCN patients considered at risk according to provincial policy (e.g., influenza, hepatitis)	x	x	x	x	PCN AHS
Screenings of PCN and non-PCN patients at risk according to provincial policy (e.g., mammogram and clinical exam, pap smear, bone density, D(Rh) antibody, hemoccult test, nicotine dependence, body mass index (BMI), blood pressure, cervical cancer, mental health, addictive substances)	x	x	x	x	PCN AHS
PCN patients receiving information on lifestyle factors (e.g., tobacco use, eating habits, physical inactivity, excessive alcohol use, unintentional injuries (home risk factors), unsafe sexual practices, unmanaged psychosocial stress)	x	x	x	x	PCN

continued on next page

Appendix D—Examples of Potential PCN Performance Measures

Objectives and Performance Measures Examples	Stakeholder				Source
	PCN	AHS	AHW	Public	
Objective 3B: Chronic Disease Management (CDM)					
PCN use (or access to) CDM registry systems that identify target groups, provide reminders and alerts, record medications taken, and allow summary reporting for medical conditions considered a priority in the PCN catchment area (e.g., diabetes, smoking, arthritis, asthma and chronic obstructive pulmonary disease (COPD), congestive heart failure, hypertension, depression)	x	x	x	x	PCN AHS
Numbers and % of PCN patients with chronic disease(s) tested and monitored according to clinical benchmarks and/or patient-agreed targets (with examples of common indicators) - Diabetes (haemoglobin A1c testing, lipid profiling, nephropathy screening, blood pressure, medications) - Asthma / COPD (spirometry exam, pulmonary testing, medications) - Congestive Heart Failure (left ventricular function test, medications) - Coronary Artery Disease (blood pressure, blood lipid profiling, medications) - Hypertension (blood pressure, blood sugar, lipid profiling, smoking cessation, waist circumference, body mass index, medications) - Mental Health (in-patient acute care rates, chemical dependency, depression screening, medications) - Use of addictive substances	x	x			PCN AHS
% of PCN CDM patients participating in their own treatment planning	x	x	x	x	PCN
PCN patient self-reported physical and mental health status (e.g., SF-12, EQ-5D) before and after participating in a CDM program	x	x	x	x	PCN AHW/AHS
Number of acute care admissions of PCN patients for family care sensitive conditions (defined by provincial policy as angina, asthma, COPD, diabetes, epileptic seizures and convulsions, heart failure/ pulmonary edema, and hypertension)					AHS
Number of Emergency visits by PCN CDM patients for their CD and % of revisits within 30 days					
Objective 4: Coordination and Linkages with Other Providers					
% of PCN patients who received a required appointment for specified referred services in a timely manner (e.g. chronic disease specialists mental health specialists, advanced diagnostic testing, surgical specialists, children's developmental specialists, geriatric specialists)	x	x	x	x	PCN
PCN physician use of standardized clinical tools (e.g., clinical guidelines, protocols, care maps/ pathways, assessment tools) to coordinate Network user care with other healthcare organizations	x	x			PCN
Objective 5: Multidisciplinary Teams					
PCN provider Full Time Equivalent (FTEs) healthcare providers by type (e.g., general practitioner/ family physician (GP/FP), nurse practitioner (NP), registered nurse (RN), occupational therapist (OT), physiotherapist (PT), pharmacist, dietician, psychologist, chiropodist, etc.)	x	x	x	x	PCN
Number of PCN patients accessing multidisciplinary teams, by type of provider (e.g., family physician, nurse practitioner (NP), registered nurse (RN), licensed practical nurse (LPN), occupational therapist, physiotherapist, pharmacist, dietician, psychologist, chiropodist)	x	x			PCN
Cost of Services					
Annual cost of family physician services (PCN + FFS) for PCN program patients	x	x	x	x	PCN/AHW
Annual cost of other primary care services (PCN + AHS) for PCN program patients	x	x	x	x	PCN/AHS
Annual cost of specialists and allied health providers (FFS) for PCN program patients	x	x	x		AHW
Annual cost of other health services (e.g., hospital, long-term, lab, drugs) for PCN program patients					AHS/AHW
Total annual cost of health services care for PCN program patients over time	x	x	x	x	AHW
Information Technology and Communication					
PCN physician use of EMRs	x	x	x		PCN
PCN physician access to their patients' healthcare information in the province's Electronic Health Record (Netcare) database	x	x			PCN
PCN patient access to their own Personal Health Record (MyHealthAlberta)	x	x	x	x	AHW

Appendix E—PCN Expenditure Policies

Under PCN guidelines, eligible expenditures from PCN per capita funding include the following:

Physician reimbursement

- Must be for services or activities not currently funded from other funding pools (e.g., fee-for-service) and cannot be compensated for more than one service at the same time from PCN funds (e.g., team management and disease management).
- Services can include:
  - clinically related activities such as a clinical supervisor, team manager or multidisciplinary team manager of other health professionals
  - clinical services such as disease management, case management including coordination or management of 24/7 access
  - PCN administrative/governance services
    costs recovery for PCN operating expenses such as space, equipment, supplies, staffing, specialized training, evaluation, recruitment and innovative initiatives that add value to the PCN

AHS reimbursement

- Must substantially improve provision of primary care through new or enhanced services, including support for other healthcare providers.
- Must not duplicate services AHS is already funded for; however, some overlap may be temporarily allowed for transition to new models.

Capital expenditures

- Capital vs. operating expense criteria are Generally Accepted Accounting Principles.
- Capital expenditures must directly enhance and support service delivery related to the PCN service delivery model.
- Cannot exceed $100,000 annually without prior approval from the Department.
- Individual items over $5,000 are considered capital, and can include:
  - IT equipment including hardware, software, EHR interfaces and PCN administrative systems
  - medical or clinical equipment including diagnostic and treatment services
  - office equipment and furnishings
  - upgrades to physical infrastructure such as remodelling and leasehold improvements

In evaluating proposed expenditures, the following conditions should be met. The proposed service:

- directly supports, enables, or is attributable to one or more of the PCN program objectives
- supports physician/AHS productivity and promotes efficient use of other healthcare providers within the PCN
- is measureable and verifiable without overlapping other provincial funding systems
- includes appropriate accountability measures, performance measures and monitoring approaches
- must not duplicate services AHS is already funded for; however, some overlap may be temporarily allowed to allow for transition to new models
- must not be funded from other funding pools (e.g., fee-for-service).

Capital expenditures must directly enhance and support service delivery related to the PCN service delivery model, and must not exceed $100,000 annually without prior approval from the Department.

Treasury Board and Finance—Analyzing Performance

Summary

The *Results-Based Budgeting Act*[1] was recently enacted. It is directed at successful service delivery outcomes, program assessments and longer term, strategic prioritization. Public reporting by ministries on performance and results should supplement information in traditional financial statements and budgets. As part of meeting accountability responsibilities, information from the financial statements and budgets should be analyzed and incorporated into the ministries' reports on performance results.

Each year, ministries set out their goals in a business plan. Performance measures and targets are aligned with the goals. These three items serve several purposes. For the public, they identify matters the government deems important and establish a base for accountability. To those in government, the combination of goals, measures and targets direct planning, resource allocations and staff initiatives.

As an accountability mechanism, there is public reporting of the analysis of significant performance measure variances between current year actual results, the business plan targets for the measures and recent historical results. The framework for this reporting is presented in the *Government Accountability Act*,[2] *Ministry Business Plan Standards and Reference Guide*[3] and *Ministry Annual Report Standards*.[4]

Ideally, information from the variance analysis is used in subsequent review, planning and operational decision making processes, such as those envisaged under the *Results-Based Budgeting Act*. Once variances have been critically examined and explained, the information and learning from the analysis process should guide the next round of planning.

What we examined

Our audit objective was to assess the quality of performance measure variance analysis used by ministries in their business plan and annual report preparation processes.

Why it is important to Albertans

The analysis ministries perform to evaluate actual results against targets and prior years' results provides information to decision makers to determine whether desired outcomes were achieved, progress was made and value was received for money spent. It also helps assess what needs to change, how changes should be made and how to improve future plans.

What we found

Ministries take a wide variety of approaches towards their results analysis reporting, including the performance measures variance analysis component. The variety of approaches, and the associated processes, by itself is not problematic. The concerns, and hence our recommendations, are with the varying degrees of inconsistent interpretations of the current performance measure reporting requirements and non-compliance with certain of the performance measure reporting standards.

Overall, the ministry reporting commitments to Albertans for performance measures are only being partially met—a high percentage of significant performance measure variances are not being explained in ministry annual reports. The quality of performance analysis and reporting can be improved.

[1] SA 2012, C R-17.5
[2] RSA 2000, C G-7
[3] Ministry of Treasury Board and Finance internal document
[4] Ibid

What needs to be done

Increasingly, governments are moving towards multi-faceted and integrated public reporting models that go beyond traditional budgets and historical cost financial statements. The challenges of good performance reporting are expected to grow. As the complexities of public reporting increase and new initiatives are introduced, it is important that the basics of performance assessment, such as variance analysis, be handled well and consistently across government.

Performance measures processes must be integrated into management systems. Government managers should show that they are using performance information in the management of their organizations. Public reporting on performance measures appears to be challenging for ministries, from selecting the measures through to reporting on actual results. To ensure balanced evaluation and follow-up, decision makers need to tolerate failure and recognize the effect of uncontrollable factors.

Setting challenging goals and targets carries the risk, even with the best effort, that some targets will not be met. As the Government of Alberta increases its focus on results, it is critical that ministry staff receive appropriate direction, training and support in the area of performance measurement.

We make our recommendations to the Department of Treasury Board and Finance because it manages the business plan and annual report standards for the Government of Alberta.

Audit scope

We examined a sample of six ministry annual reports for the year ended March 31, 2011, along with the three-year business plans (2010-2013) most recently associated with the 2011 annual reports. The sample set of ministries are representative of the overall breadth of performance measures, measurement tools and performance measure processes used by ministries.

Background

Variance analysis is a standard management tool used in performance assessment. The mandated reporting of this information contributes to public sector accountability. The steps of a variance analysis review process will generally include the quantitative identification of variances, usually expressed as a numeric amounts and percentage difference or change values.It is best practice for the quantitative variance information to be assessed qualitatively, developing the explanation for the variance from the target and from prior years' results. Management should consider the effect of its decisions, the operating environment and significant external factors. Even when targets are met or substantially met, it is useful to assess the factors contributing to that year's success.

Findings and recommendations

Improve ministry annual report processes

Background

Variance analysis should critically assess and interpret why the variance occurred, particularly if it is considered significant or material. Given the significant variance explanation requirements in the *Government Accountability Act*, senior management should be involved in final decisions as to the variances that have been assessed as significant and require public report explanations.

Quantitative variances may be classified as favourable or unfavourable when actual results are compared to targeted outcomes established in prior years. The quantitative values form the base for follow-up qualitative assessments, including any designations as significant variances that will require annual report commentary to explain reasons for each of these variances.

Recommendation:

10 RECOMMENDATION

We recommend that the Department of Treasury Board and Finance work with ministries to improve annual report:

- preparation processes for identifying significant performance measure variances and developing explanations for these variances for reporting
- approval processes, including senior management sign-off of a summary of the year's performance measure variances and significant variance assessments

Criteria: the standards for our audit

Each ministry should have a process that, for each of its performance measures, identifies all variances between the current year actual result and the business plan target, and recent historical results. Analysis by ministry staff and management should follow this identification, including assessments identifying the significant variances. Explanations for the significant variances should be developed for reporting in the results analysis section of the ministry's annual report.

Our audit findings

Key findings

The majority of ministry processes sampled are not identifying all performance measure variances and significant variances between

- current actual results and business plan targets
- current actual results and recent historical results

Each ministry is responsible for its own annual report preparation, approval and public release processes.

We reviewed annual reports and met with ministry staff involved with the performance measure aspects of planning and reporting. We reviewed ministry documentation for the Budget 2010 planning and target setting, as well as for the 2011 annual report preparation and approval processes.

Annual report preparation

Ministry employees generally used documents and emails from the prior year to guide their current year annual report preparation work. Procedures for retaining and managing performance measure documents and emails varied between ministries. Work plans were primarily focused on the timing of annual report preparation steps.

Performance measure working papers that ministries used to develop their business plans and annual reports generally did not show the numerical and percentage change amounts between current year's actual results, the business plan targets and recent historical results (i.e., the variances).

The performance measure working papers generally included a section with "materiality" or "significance" assessment as part of the heading. Statements in this section tended to be fairly general and limited, with a percentage of 5% (often) or 3% (sometimes) most frequently listed. Typically, management would also use judgement and consider factors such as percentage change, target met or not met, and change in year over year trends. A rationale for choosing one materiality/significance option over others, or otherwise supporting the percentage selection was usually not documented.

One ministry presented a complete and clear set of data identifying the variances for each of its measures. In addition to listing the annual report summary table amounts, its working papers listed the numerical and percentage change from comparing the current result to the target, immediate prior year result and an average of the last four prior years' results. These amounts were related to the materiality/significance factor used for each performance measure and a statement that the variance was assessed as insignificant or significant was documented. Where the variance was assessed as significant, analysis was drafted to explain and provide reasons why the current result differed from the comparator.

This commentary formed the basis of the variance analysis narrative in the annual report.

Annual report approval

Fairly early on in the annual report drafting processes of the ministries we audited, the performance measure working papers details were "left behind," and not revisited. Once drafted, the annual report document moved ahead on its own for revisions and approvals. Senior management approval of the annual report was for this document as a whole, without any detailed staff declaration or sign off that all specifics that should be in the annual report had been appropriately included.

Our analysis

In the absence of clearly defined sampled ministry processes to identify significant variances, we performed our own quantitative examination of the 2011 annual report performance measure statistics for the sample set of ministries. We identified approximately 100 performance measure components (individual measures, plus any subcategories with separate targets) in the six 2011 annual reports we examined.

We found that ministries did not explain a high percentage of significant variances. We found that 40% of the approximate 100 performance measures used by the ministries examined were potentially significant—explanations for 20% of these variance were in annual reports. At the less stringent 10% level of significance, the percentage of potentially significant variances dropped to 30% of the total number of measures—explanations for 25% of these variances were reported.

In the absence of significant variance analysis explanations, the commentary in ministries' annual reports was a combination of:

- explanations of measure mechanics, repeating some of the required methodology write-ups that are usually in a separate section of the annual report
- general factors that might affect the measure's results, without specifying the applicability (or non-applicability) of the general factors to the current year's significant variance
- restatement of statistics in the standard performance measure summary table
- ministry program descriptions and activity listings, often without reference to any measures

In several cases where variance commentary was not in the annual report, there were some good variance analysis notes and information in the performance measure working papers that could have formed the basis for a suitable annual report explanation.

The variance analysis explanations did not make use of financial data (e.g., costs—base level or incremental/reduced amounts of funding, cost savings that could be linked to the difference explanation) in their results analysis commentary.

The annual report preparation processes of most ministries did not identify variance amounts and percentage change values for all measures. In the absence of identifying these variances, there is no informational basis on which to assess the significance of the differences.

Ministries effectively assessed a large percentage of potentially significant variances as insignificant by not following up with explanations in the annual report. There was no documentation of the qualitative considerations supporting the ultimate "insignificant, no annual report explanation required" assessments.

Operationally, management should monitor its performance measure trends and take action on a timely basis when it assesses performance results to be significantly different from current expectations. However, for some measures, processes only considered variance related issues when the annual report preparation process was well underway. Earlier identification and preliminary performance reviews may increase the likelihood of more timely operational decisions, as well as more complete reporting.

Two of the six ministries in the audit sample presented only three years of actual prior results–the immediate prior year, plus two years before. This differs from the five total years of actual results that the annual report standards specify.

In several cases management cited plans to discontinue the use of certain measures, providing this as a reason for not completing more detailed variance analysis work.

Overall, there were gaps in most ministries' senior management approval processes. These gaps were such that senior management in a large number of ministries may not appreciate that there are significant variance explanation requirements to be met in each year's annual report.

Measuring Up report

As part of this audit, we examined the processes for preparing and approving the *Measuring Up Progress Report on the Government of Alberta Business Plan 2010-2011 Annual Report*. This report includes broader, macro-level measures directed at high-level outcomes that are priorities to Albertans. It is prepared using information from ministries, professional survey firms and agencies such as Statistics Canada. The Measuring Up report processes will benefit from improved performance reporting by ministries.

Implications and risks if recommendation not implemented

In the absence of a thorough review of actual result variances from targets and recent historical results by ministry staff, it is possible that required follow-up will be limited or overlooked. Shortcomings or failures in variance analysis and related processes may result in:

- ministries not complying fully with legislated performance measure reporting and accountability declaration requirements
- incomplete or potentially misleading reporting to Albertans on ministry performance

Improve performance measure reporting guidance and standards

Background

The use of performance measures as a supplement, and ideally interrelated complement, to traditional financial statements is relatively new to the public sector, as well as to the private sector. Guidance and best practice alternatives in various aspects of public sector performance reporting continue to evolve.

Recommendation:

11 RECOMMENDATION

We recommend that the Department of Treasury Board and Finance improve its guidance for:

- performance measure target setting
- variance identification
- significant performance measure variance assessments and annual report explanation development
- preparing the results analysis section of ministry annual reports

The improved guidance should include updates to the ministries' business plan and annual report standards. These changes could be supported by training sessions and presenting samples of good practices on the inter-ministry website.

Criteria: the standards for our audit

The Department of Treasury Board and Finance should manage processes that provide clear, comprehensive guidance on setting targets in business plans and reporting results in annual reports. This guidance should be designed so that explanations of significant performance measure variances are reported, complete and reasonably consistent between ministries.

Our audit findings

Key findings

- Processes for target setting vary widely between ministries. Guidance in the business plan standards on setting performance measure targets is minimal.
- Reporting on significant performance measure variances is inconsistent between ministries. Guidance in the annual report standards on variance analysis is minimal.
- Annual report commentary on significant performance measure variances rarely makes use of related financial data.

The Department of Treasury Board and Finance coordinates and manages the business plan and annual report standards processes. It receives input from ministry representatives each year in advance of updating and releasing the standards for the following year. We met with Department staff regarding the process for managing these standards. In meeting with the audit sample ministry representatives, we obtained their comments on the standards and update processes.

Target setting

Ministries varied in their approaches to setting an initial target in a business plan, as well as in their reviews and updates of the performance measure target for each of the next two business plans. The majority of ministries we audited indicated that guidance for target setting in the *Ministry Business Plan Standards and Reference Guide* is limited.

Significant variances—assessments and report explanations

The majority of ministries indicated that guidance in the annual report standards for the identifying and reporting on significant performance measure variances is limited. In the absence of such guidance, ministries made their 2011 significance assessments in a variety of ways (and, as noted earlier, in many cases did not make such assessments). The significance assessment was not required prior to 2010 since, under the annual report standards at that time, the results for all measures were to be discussed. Starting with the 2010 annual reports, only measures with significant variances require results analysis commentary.

Integrating financial information

Staff involved with performance measure planning and reporting generally worked separately from the ministry's financial and managerial accounting groups. The use of financial accounting information in annual report variance analysis reporting was rare.

Implications and risks if recommendations not implemented

Performance reporting is an area of growing scrutiny and importance in the public sector. Assessment approaches and considerations used by the ministries should be consistent to support cross-government accumulations of data (e.g., in the annual *Measuring Up – Progress Report on the Government of Alberta Business Plan*) and performance analysis. Shortcomings in variance analysis and related processes:

- may result in non-compliance with legislated performance measure reporting requirements
- may result in or contribute to less than optimal ministry and/or ministries' resource allocation and related decisions
- may result in difficulties transitioning to various aspects of the government wide results-based budgeting initiative

AUDITOR GENERAL
Alberta

Follow-up Systems Audits

Report of the Auditor General of Alberta—July 2012

Environment and Sustainable Resource Development—Systems to Promote Drinking Water Safety and Regulate Water Well Drilling Activities

Summary

History of the audit

In 2006, we audited the Department of Environment and Water systems to regulate and promote safe drinking water under the *Environmental Protection and Enhancement Act*,[1] as well as systems to regulate water well drilling under the *Water Act*.[2] It is the Department's responsibility to report on the safety of drinking water and effectiveness of Alberta's drinking water regime. The audit dealt only with drinking water quality, not with raw water supply and source protection.

We did the original audit in 2006 (our *October 2006 Report*, vol. 1—pages 25–61 and vol. 2—pages 84–86) because the quality of drinking water is important to the health of Albertans. Systems to properly operate and monitor drinking water treatment and distribution in the province are vital to the well-being of people. In our *October 2006 Report* we concluded that necessary systems exist, and are generally well designed. However, we also identified a number of opportunities for improvement, resulting in seven recommendations (see table below). In 2009, we followed up on three of the recommendations that were aimed at areas directly involved in managing risks associated with waterworks operations. We expected the Department to take immediate action in those three areas. The remaining recommendations required a longer implementation timeframe. See the table below for our audit conclusions.

2006 Recommendations	2009 Status	2011 Status
Recommendation No. 1 Improve system to issue waterworks approvals and registrations.	Satisfactory Progress	Implemented
Recommendation No. 2 Improve drinking water inspection systems.	Satisfactory Progress	Implemented
Recommendation—unnumbered Expand communication with partners involved in drinking water matters at the district level.	—	Implemented
Recommendation No. 3 Update strategies to deal with the Province's needs for certified water treatment operators.	Implemented	
Recommendation No. 4 Improve the information systems used to manage its drinking water businesses.	—	Satisfactory Progress
Recommendation No. 5 Ensure that Department's legislation, programs, and practices support its drinking water goals.	—	Implemented
Recommendation No. 28 Improve system to regulate water well drilling.	—	Implemented

[1] E-12 RSA 2000
[2] W-3 RSA 2000

Environment and Sustainable Resource Development—Systems to Promote Drinking Water Safety and Regulate Water Well Drilling Activities

What remains to be done and why it is important

We concluded that the Department has made satisfactory progress in implementing our recommendation to improve its information systems. This recommendation is important because without effective information systems, the Department cannot perform timely and efficient analysis of drinking water data to better understand and manage risk. Such analysis is important for maintaining the strength of the Department's regulatory system for drinking water in the future.

To implement the remaining recommendation, the Department needs to:

- finalize its assessment of current and future business requirements and existing limitations of its information technology systems
- identify the long-term solution to redesign or replace the Environmental Management System, and support it with an action plan that provides objectives, timelines, allocated responsibility and resources
- systematically monitor progress against its plan to implement the identified solution for redesign or replacement of EMS

Audit objectives and scope

Our original audit objective was to assess if the Department of Environment and Water has adequate systems to regulate and promote safe drinking water under the *Environmental Protection and Enhancement Act*. It is the Department's responsibility to report on the drinking water safety and on effectiveness of Alberta's drinking water regime.

Our current audit objective was to determine if the Department has implemented the six remaining recommendations on drinking water and water well drilling from our *October 2006 Report*.

In performing the audit, we:

- examined applicable internal and publicly available documentation
- interviewed management and staff in respective program areas
- examined samples of approval and compliance files in respective program areas

We conducted our field work in 2011 and focused on the Department's actions since our 2006 audit.

Background

Drinking water in Alberta is provided mostly by municipal waterworks. Some industrial and private facilities also produce drinking water for onsite consumption and/or supply to nearby communities. Water treatment facilities obtain water either from surface water bodies or from groundwater aquifers. An increasing number of communities in Alberta do not rely on local water treatment facilities and obtain drinking water through regional distribution pipelines.

Different risks are associated with different drinking water sources. Generally, high quality groundwater[3] poses less risk than surface water. Groundwater is less likely to contain bacteria and other organic and non-organic matter. However, groundwater may contain high concentrations of naturally occurring elements that may require additional treatment and monitoring, such as heavy metals. In some cases, groundwater contains elements such as iron that do not create direct and immediate health risks, but affect taste and odour.

[3] High quality groundwater is defined by EPEA *Potable Water Regulation* as the groundwater that

(i) does not require treatment to comply with the applicable physical, chemical and radiological Maximum Acceptable Concentration or Interim Maximum Acceptable Concentration, except for fluoride, specified in the Guidelines for Canadian Drinking Water Quality, published by Health Canada, as amended or replaced from time to time, for the parameters listed in the Standards and Guidelines for Municipal Waterworks, Wastewater and Storm Drainage Systems, published by the Department, as amended or replaced from time to time,

(ii) contains a concentration of naturally occurring fluoride of less than or equal to 2.4 milligrams per litre, and

(iii) is not under the direct influence of surface water.

The Department of Environment and Water regulates waterworks under the *Environmental Protection and Enhancement Act*. The Department is responsible for approving waterworks, as well as monitoring and enforcing compliance with the *Act*, regulations and codes of practice under the *Act*. To deliver its mandate, the Department relies on a number of key regulatory information management systems, particularly the Environmental Management System.

The Department also regulates water well drilling activities under the *Water Act*, including issuing approvals to drill water wells, and collecting groundwater and geological information via drilling reports that water well drillers are required to submit under the *Water Act*. The information gathered through the water well drilling reports is important for understanding location and condition of the groundwater resource in the province.

The Department also plays a lead role in coordinating with stakeholders to achieve goals of the Government of Alberta's *Water for Life*[4] strategy.

Findings

Approval and registration systems—implemented

Background

In our *October 2006 Report* (no. 1, vol. 1—page 37), we recommended that the Department of Environment and Water make its system to issue approvals and registrations more effective by:

- strengthening supporting processes such as training, manuals, checklists and quality control for approvals and registrations (implemented in 2009)
- ensuring that applications are complete and legislatively compliant (satisfactory progress in 2009)
- documenting important decisions in the application and registration processes (implemented in 2009)
- processing applications and conversions promptly (satisfactory progress in 2009)
- maintaining consistency in the wording of approvals and registrations across the province (implemented in 2009)
- following up short-term conditions in approvals (satisfactory progress in 2009)

In our *April 2009 Report* (page 38), we concluded that the Department made satisfactory progress in implementing this recommendation. To fully implement this recommendation, the Department had to:

- improve timeliness of approval actions by establishing and following guidelines for application processing times
- clarify design documentation requirements for original engineering plans and design drawings
- establish a system to follow up on short-term approval conditions

Our audit findings

The Department has implemented this recommendation by improving its systems in each of the three areas that had remaining weaknesses in 2009.

Timeliness of approval actions

The Department has introduced an internal guideline for application processing times. The processing target for routine applications is 50 working days. The processing target for non-routine applications is 100 working days.

We examined a sample of approval files that the Department processed between 2008 and 2011. Overall, the Department has met its targets for approval processing times. In cases where timelines were exceeded, we concluded that the processing delays had reasonable justifications.

[4] See http://www.environment.gov.ab.ca/info/library/6190.pdf

Design documentation requirements

The Department had to clarify its requirement for storage and retention of original engineering plans and design drawings. The Department has introduced internal guidelines for filing, storing and subsequent archiving of engineering plans and design drawings. The Department also amended the waterworks approval template to clarify responsibilities of the approval holder with respect to storage of engineering plans and design drawings.

System to follow up on short-term conditions

The Department has implemented a formal system to monitor compliance with short-term conditions in approvals. The Department has added a new electronic component to its Environmental Management System to track all short-term approval conditions for drinking water treatment and distribution facilities across the province. Compliance staff use this information to plan their work and verify that facility operators comply with short-term conditions in their approvals.

For our sample, we deliberately selected facilities that had short-term conditions. We found that short-term conditions were either met by the specified deadline, or the Department was taking timely and appropriate action to ensure that operators comply with conditions.

Inspection systems—implemented

Background

In our *October 2006 Report* (no. 2, vol. 1—page 43), we recommended that the Department improve its drinking water inspection processes by:

- applying the same inspection frequency targets to all waterworks regulated by the *Environmental Protection and Enhancement Act* (satisfactory progress in 2009)
- ensuring inspectors receive sufficient training in waterworks systems and operations (implemented in 2009)
- revising documentation tools and practices, including making them more focused on risk (implemented in 2009)
- informing operators promptly of inspection results, ensuring operators respond appropriately, and concluding on each inspection (implemented in 2009)

In our *April 2009 Report* (page 41), we concluded that the Department made satisfactory progress in implementing this recommendation. While the Department clearly defined inspection frequency targets for municipal waterworks, it was still working to define which industrial and private facilities should be included in the drinking water inspection program. To implement this recommendation, the Department of Environment and Water had to:

- confirm regulatory requirements for existing industrial and private waterworks by visiting all of these facilities to confirm their operation and consider amending their approvals to reflect the current regulatory requirements
- finalize the review of all applicable industrial and private waterworks, and clearly determine which waterworks meet the potable water definition and must be included in the drinking water inspection program
- inspect appropriate industrial and private facilities that have waterworks supplying potable water

Some industrial and private waterworks system in Alberta supply drinking water for onsite or public use. While the Department inspects municipal drinking water facilities annually or biennially, in 2006 we found the Department was inspecting industrial or private waterworks system that supply drinking water only once every ten years.

Our audit findings

The Department has implemented this recommendation by completing all three steps that were remaining in 2009:

- The Department has assessed all existing industrial and private waterworks to identify those that meet the potable water definition under the *Act*.[5]
- The Department identified industrial and private waterworks that supply potable water and included them in the drinking water inspection program.
- We examined files of all these waterworks and found that the Department now inspects them on an annual or biennial basis, as required under the drinking water inspection program.[6]

Communication with partners—implemented

Background

In our October 2006 Report (vol. 1—page 48), we recommended that the Department at the district level expand its communication with partners involved in drinking water matters.

Systematic communication with community partners, particularly health authorities and municipalities, can be effective in identifying waterworks that need to be regulated, or resolving problems at the already regulated waterworks. In 2006, we found that only one out of six district offices of the Department had a mechanism to regularly meet with local Alberta Health Services public health staff and systematically identify waterworks that need to be regulated.

Our audit findings

The Department has implemented this recommendation. In 2011, we found that the Department has expanded its communication with health authorities to other district offices and now has an ongoing formal relationship with Alberta Health Services to identify waterworks that need to be regulated and to better manage risks at the already regulated waterworks.

The Department established closer relationships with municipalities and continues to formalize its involvement as it regularly attends meetings with the Alberta Urban Municipalities Association and Alberta Association of Municipal Districts and Counties.

Information systems—satisfactory progress

Key findings

- The Department made some improvements in the operation of existing information systems.
- The Department formalized its commitment to replace or redesign its Environmental Management System.
- Although the Department has taken important steps in assessing current EMS limitations, it has not yet decided on how it will redesign or replace the EMS.

[5] Potable water is defined by *Environmental Protection and Enhancement Act* as water that is supplied by a waterworks system and is used for drinking, cooking, dish washing or other domestic purposes requiring water that is suitable for human consumption.

[6] Drinking water treatment facilities that obtain raw water from rivers, lakes or shallow groundwater wells must be inspected by the Department once every year. Drinking water distribution systems and drinking water treatment facilities that rely on deep groundwater must be inspected once every two years.

Environment and Sustainable Resource Development—Systems to Promote Drinking Water Safety and Regulate Water Well Drilling Activities

Background

In our *October 2006 Report* (no. 4, vol. 1—page 52), we recommended that the Department of Environment and Water improve the information systems used to manage its drinking water business by:

- updating Environmental Management System forms and improving reporting capacity
- coordinating regional, district and personal information systems to avoid overlap and encourage best practice
- using data to improve program effectiveness and efficiency

The EMS is the main system for managing information on drinking water activities in Alberta, including the Department's approval and compliance actions. The system is approximately 17 years old and the Department contracts a private service provider for ongoing EMS operation and maintenance.

In 2006, we found that some EMS forms and functionality were not up to date, EMS limitations had led staff at different districts to develop their own overlapping and poorly integrated systems, and that EMS lacked analytical and reporting functionality that would allow the Department to use drinking water data more effectively.

Criteria: the standards for our audit

Automated information and management systems used to support the Department's drinking water program should be well-designed and operate efficiently and effectively.

Our audit findings

The Department made satisfactory progress in implementing this recommendation. Although the Department made some important IT improvements, the main challenges related to inherent limitations of EMS functionality have not yet been resolved.

Because drinking water is only one of the Department's regulatory businesses that rely on EMS, the work to find and implement an appropriate solution will be neither fast nor simple. The Department recognizes the current limitations of EMS and started an initiative to review the existing EMS functionality to:

- identify current and future business needs and system limitations
- make basic improvements and software fixes to make better use of the EMS in the short term
- in the long term, either perform a major upgrade or completely replace EMS with better technology

This initiative is a major undertaking. EMS functionality is deeply imbedded in many of the Department's regulatory activities. The Department emphasizes that the success of this initiative depends heavily on extensive planning and involvement of various functional units within the Department.

In 2007, the Department's IT team initiated a review to identify existing system limitations and make immediate improvements, where possible. During this process, the Department made a number of software fixes and other improvements. Due to the inherent complexity of the system, there were limitations to what the review team could do to resolve all data and reporting problems at this stage.

In 2008, the Department commissioned an external consultant to review the technology architecture of the EMS to determine its future ability to support the growing needs of the Department, including the drinking water business. The assessment confirmed that the current database structure was fragmented and difficult to support. The review also confirmed that the current state of the system was an impediment to improving the needed integration of data and function with the other information systems.

In 2009, the Department established an EMS operational committee to increase involvement of management and staff from operational areas in the ongoing IT improvement activities and in planning to redesign or replace the EMS. The committee is comprised of the Department's staff in water business areas, IT staff and an external contractor that maintains EMS infrastructure. The committee meets regularly to review, prioritize and approve system changes.

In 2010, the Department upgraded the EMS database to the latest software version. Although this was not a solution to main EMS challenges, it was an important step to improve system response time, access to data, and day-to-day maintenance and operation of the system.

In its 2011–2012 operational plan, the Department has a project, titled "New Environment Management System," to investigate options for replacing EMS. This is aligned with the Department's information management and technology plan for 2011–2014. In these plans, the Department commits to develop a business case for EMS transformation, set up a project steering/governance committee and assign a project manager.

What remains to be done

To implement this recommendation, the Department needs to:

- finalize its assessment of current and future business requirements and existing system limitations
- identify the long-term solution for redesign or replacement of EMS, and support it with an action plan that outlines objectives, timelines, allocated responsibility and resources
- begin implementing the plan and formally monitor progress

Implications and risks if observation is not implemented

Without effective information systems, the Department cannot perform timely and efficient analysis of drinking water data to better understand and manage risk.

Systems to support drinking water goals—implemented

Background

In our *October 2006 Report* (no. 5, vol. 1—page 55), we recommended that the Department ensure that its legislation, programs and practices support its drinking water goals. This includes:

- clarifying how approvals will move facilities towards current standards
- delivering central initiatives that enhance the drinking water program
- determining how the Department should promote policy initiatives such as regionalization, including the financing of those initiatives
- establishing how the Department can partner with others while mitigating the risks inherent in partnering
- reinforcing a "beyond compliance" mindset with Department staff

Our audit findings

The Department has implemented this recommendation.

Moving facilities toward current standards

The new Standards and Guidelines for Municipal Waterworks, Wastewater and Storm Drainage Systems came into effect in 2006. Some waterworks were able to comply with new standards by simply changing their operating procedures. Others had to undertake lengthy and expensive upgrades, or replace existing infrastructure.

Environment and Sustainable Resource Development—Systems to Promote Drinking Water Safety and Regulate Water Well Drilling Activities

The Department has improved its system to move facilities to current standards.[7] It has a target of substantially completing this transition by 2012. The Department expects a few specific facilities to complete their transition to current standards by 2016. The Department has recently updated its approval process and templates to facilitate the transition. The Department systematically tracks progress individual facilities make, and estimates that 75% of all regulated waterworks now operate at 2006 standards. The Department expects the remaining facilities to meet water treatment requirements while completing their transition to current standards. If water testing results at individual facilities indicate immediate risk to public health, the Department will work with AHS to issue a boil water advisory to the community.

The Department also improved internal communication and information support for approval and compliance staff at the district level. Examples of initiatives include annual compliance and approval staff meetings, weekly province-wide teleconferences to discuss current problems, share information and identify best practices, and development of an internal web-based application to provide staff with better access to professional resources.

Delivery of central initiatives

In 2006, we identified a number of challenges the Department faced in implementing the electronic water quality data reporting initiative, the treated water survey and the laboratory data quality assurance initiative.

The Department has improved the implementation of the electronic reporting initiative. The success of this initiative relies on the voluntary participation of facility operators. Currently, the Department receives bacteriological testing results electronically for all facilities. About 20% of facility daily routine reporting is also done electronically, compared to 10% in 2006. The Department makes this information available to the public through its website.[8]

In 2006, we found that the Department was not systematically using data it gathered through the treated water survey to better understand and manage drinking water risk in the province. The Department indicated that it has discontinued this survey because limited analytical and reporting functionality of the current information system prevents timely and efficient analysis and use of the information. Some of the Department's drinking water information needs are met through the increasing participation of facilities in the electronic reporting initiative. The Department indicated that it will incorporate its drinking water information needs, together with other information requirements, into the EMS transformation initiative discussed in the section above.

The Department's laboratory data quality assurance initiative was a three-year project to provide assurance over reliability of the laboratory data submitted by regulated facilities. Based on the results of this project, the Department identified the need for a mechanism to ensure the quality of the submitted water information. As of April 2010, the Department implemented three options facilities may select from:

- operate an in-house laboratory accredited by a recognized national or international accreditation body
- submit water samples to an external laboratory accredited by a recognized national or international accreditation body
- analyze water samples through the use of portable test kits, according to the manufacturers specifications

[7] Within the current 2006 *Standards and Guidelines* the Department closely references "Guidelines for Canadian Drinking Water Quality," and requires compliance with Canadian guidelines as part of its regulatory framework. The Canadian guidelines are regularly updated by Health Canada, with the Department's participation on the federal-provincial-territorial committee.

[8] See http://environment.alberta.ca/apps/regulateddfwq/

In addition, standard operating procedures will be posted on the Department's website detailing pertinent background information and a simplified step-by-step procedure for laboratory analysis for parameters such as fluoride, turbidity and free chlorine.

Regionalization of drinking water supply

Regional distribution of water via pipelines from centralized treatment locations is one of the government's long-term solutions for meeting drinking water needs in the province. A centralized system provides greater consistency in operational practices and makes it easier for the Department to manage health risks associated with drinking water.

With a regional distribution system, individual municipalities do not have to construct and maintain their own costly water treatment infrastructure. Regionalization also helps reduce problems caused by the shortage of certified waterworks operators in the province.

To facilitate participation of municipalities in this voluntary program, the Alberta government provides 90% of the cost of new infrastructure to link a municipality to a regional water distribution line. Although municipalities have to assume subsequent operating expenses, in most cases the cost of operating a water distribution system is substantially less than operating one's own water treatment facility. The Department of Transportation administers funding for the program, and relies on the Department of Environment and Water to engage municipalities. Regional staff of Alberta Transportation process applications for funding and provide the information so that the Interdepartmental Committee on Water and Wastewater can make approval recommendations. The Department of Environment and Water has developed a formal system to prioritize application decisions based on risk, and tracks regionalization progress across the province.

Partnering with others

The Department has implemented this portion of the recommendation. Work done by the Department in this area is discussed on page 75 of this report.

Beyond compliance mindset of Department staff

Work done by the Department in this area is discussed in this section under "moving facilities toward current standards" and in our 2009 follow-up audit report.

Systems to regulate water well drilling—implemented

Background

In our *October 2006 Report* (no. 28, vol. 2—page 84), we recommended that the Department of Environment and Water improve its system to regulate water well drilling by:

- ensuring that drillers and drilling companies meet approval requirements
- implementing controls to ensure that water well drilling reports are:
- received on time
- complete and accurate
- accurately entered into the Groundwater Information System
- obtaining assurance that water well drilling activities in the field meet legislated standards

As required under the *Water Act*, when a water well is drilled for the diversion and use of groundwater, the driller must submit the water well drilling report to the Department within 60 days. These reports, submitted electronically or on paper, provide valuable data on groundwater in Alberta. Under the *Act*, all water well drilling contractors must obtain an approval from the Department. For some types of drilling activity the Department requires individual drillers to hold a valid journeyman certificate as a water well driller. Training and certification of individual water well drillers is done through the Department of Advanced Education and Technology.

Environment and Sustainable Resource Development—Systems to Promote Drinking Water Safety and Regulate Water Well Drilling Activities

Our audit findings

The Department has implemented this recommendation.

The Department eliminated the backlog of water well drilling reports. This data is now entered into the Alberta Water Well Information Database (referred to in the original audit report as the groundwater information system). To avoid data entry backlogs in the future, the Department improved its system for timely entry of information into the AWWID. The Department also implemented new controls to ensure quality of information submitted by water well drillers.

We reviewed a sample of water well drilling reports processed by the Department, and found significant improvement in timeliness and quality of both paper and online report submissions. In cases where the Department's data quality controls identified problems with accuracy or completeness of drilling reports, the Department systematically followed up with water well drillers to resolve current problems and prevent them in the future.

The Department improved its system to issue and maintain water well drilling approvals. We examined approval files of all water well drillers that appeared in our sample of drilling reports. All of these drillers held proper approvals at the time of the drilling activity.

The Department developed a compliance mechanism for individual water well drillers who persistently submit reports that are late or of poor quality. Staff within the Department's water well data section have started to compile summary compliance reports for individual problem drillers. Management indicated that these reports will be used by regional staff in planning their compliance activities.

Human Services—Occupational Health and Safety Systems

Summary

What we examined

In 2010, we audited systems the Department of Human Services used to promote, monitor, enforce and report on its occupational health and safety goals and objectives. We made five recommendations to the Department (formerly the Department of Employment and Immigration) in our *April 2010 Report* (starting at page 31).

This year, we conducted follow-up work to assess the Department's progress in implementing our recommendations to:

- promote and enforce compliance with the law[1] by high-risk employers and workers
- improve planning and reporting systems for OHS
- strengthen its proactive inspection program
- improve its systems to issue Certificates of Recognition (COR)
- strengthen the legislated permit and certificate program

Why this is important to Albertans

The impact of workplace injuries, illnesses and fatalities reaches well beyond workers and their families and leads to broader negative economic and social consequences, which include:

- workers losing their level of income, health and sometimes their lives
- employers facing costs such as legal expenses, additional hiring and training costs, loss of productivity and Workers' Compensation Board premium increases
- healthcare system ultimately funding and treating unreported injuries and diseases
- pressures on government resources to inspect, investigate and prosecute

What we found

The Department has fully implemented two of five recommendations. It strengthened its inspection program by analyzing employer safety data to identify, select and inspect worksites and employers within high-risk sectors. It also incorporated evening and weekend inspections. The Department strengthened and improved controls over its legislated permit and certificate programs by implementing a new system and policies for issuing asbestos certificates. It also improved processes for reviewing and monitoring external agencies.

While the Department has made progress, we highlight three areas that still need to improve. First and most important, the Department still has not sufficiently defined high-risk employers and workers. It also does not have processes that will comprehensively identify high-risk employers and workers and apply enforcement actions that will successfully deter them from breaking the law. This is why we have repeated this recommendation. However, the Department is pursuing administrative penalties and fines and has implemented a new inspection reporting system and a process for reviewing COR employers.

Second, the Department is developing the current Work Safe Alberta strategic plan, but has not completed it. It has, however, initiated projects to obtain data on chronic injuries and diseases and reported on the effectiveness of key OHS programs and initiatives. Lastly, the Department has followed up on its recommendations to COR certifying partners, but it has not yet implemented quality reviews of COR auditors' work.

[1] The OHS Act, Regulation and Code set out specific requirements for occupational health and safety in Alberta.

Human Services—Occupational Health and Safety Systems

2010 Recommendations	2012 Status
Recommendation No. 3 Enforce compliance with the law by high-risk employers and workers	Repeat
Recommendation—unnumbered Improve planning and reporting systems	Satisfactory Progress
Recommendation—unnumbered Strengthen proactive inspection program by improving risk focus and coordinating employer selection methods for its inspection initiatives	Implemented
Recommendation—unnumbered Improve systems to issue CORs	Satisfactory Progress
Recommendation—unnumbered Strengthen the legislated permit and certificate programs	Implemented

What remains to be done

To help prevent occupational injuries, diseases and fatalities in the workplace, the Department should:

- develop criteria to define and implement a process to comprehensively identify, high-risk employers and workers
- implement appropriate enforcement actions for those who fail to comply with the law
- complete the current Work Safe Alberta strategic plan
- improve documentation and implement quality reviews for the COR employer review process, work done by COR auditors and inspections data
- strengthening its proactive inspection program by improving risk focus and coordinating employer selection methods for its inspection initiatives
- improving its systems to issue CORs by:
  - obtaining assurance on work done by COR auditors
  - consistently following up on recommendations made to certifying partners
- strengthening the legislated permit and certificate programs by improving:
  - controls over issued asbestos certificates
  - processes for approval and monitoring of external training agencies

Audit objectives and scope

Our audit objective was to determine if the Department had implemented the recommendations from our *April 2010 Report* by:

- enforcing compliance with the law by high-risk employers and workers
- improving planning and reporting systems for OHS by:
  - obtaining data on chronic injuries and diseases to identify potential OHS risks
  - completing the current update of the Work Safe Alberta strategic plan
  - measuring and reporting performance of OHS programs and initiatives that support key themes of the plan

In performing the audit, we:

- reviewed new, updated and revised systems, processes, policies and procedures
- confirmed implementation of the systems and processes
- interviewed Department staff
- performed other audit procedures relevant to our audit

We conducted our field work from November 2011 to May 2012 and focused on the Department's actions since our *April 2010 Report*.

Background

The Department is responsible for implementing the government's OHS policy. It administers the *Occupational Health and Safety Act, Regulation and Code* through various programs and initiatives. Employers and workers are responsible for reporting workplace accidents and unsafe conditions and helping to ensure healthy and safe workplaces.

Compliance enforcement

When OHS officers identify worksite activities and conditions that do not comply with the law, they may issue orders requiring employers to take appropriate corrective action. The Department has a limited range of enforcement tools at its disposal from stop-work and stop-use orders,[2] court orders to prosecution.

Work Safe Alberta strategy

The Department collaborates with industry and labour representatives to develop and implement the Work Safe Alberta three-year strategic plan. The strategy's objectives include increasing awareness, expanding partnerships, strengthening the regulatory framework, improving research and reporting, improving compliance and expanding training.

Inspection systems

The Department monitors compliance through a system of reactive and proactive inspections. Reactive inspections prioritize complaints, worksite incidents and fatalities by severity and risk. Proactive inspections target high-risk employers and industries.

Certificate of Recognition

Certificates of Recognition[3] provide WCB rebates of up to 20% of annual premiums to COR employers who implement appropriate health and safety programs. The Department is responsible for all COR certification activities and, jointly with the certifying partners,[4] issues certificates and maintains a database of COR employers. The Department periodically reviews its certifying partners to ensure they meet program requirements. Independent COR auditors examine the employers' OHS systems and report their findings to certifying partners.

Legislated permits and certificates

The law requires individuals working in asbestos abatement, in mining and with explosives to obtain permits and certificates. The Department issues permits and certificates to applicants who successfully complete approved training or apprenticeship. For asbestos, the Department approves external agencies to provide training to workers. The Department provides blank, serial numbered certificates to asbestos training agencies, which issue certificates to workers. In turn, the training agencies must report the certificate information to the Department.

Findings and recommendations

Promoting and enforcing compliance—recommendation repeated

Background

In our *April 2010 Report* (page 39), we recommended that the Department enforce compliance by employers and workers who persistently fail to comply with the Act. The Department did not have a clear decision ladder for escalating compliance action from promotion and education to enforcement for a small, but high-risk, group of employers who consistently failed to comply with OHS orders. Some high-risk employers held a valid COR. These employers and their workers were much more likely to have workplace incidents, yet they continued to receive COR benefits.

[2] When OHS officers observe unsafe equipment or work, they will stop the use of the equipment or work until the employer takes corrective action.

[3] CORs and applicable rebates to participating COR employers are issued under the WCB's Partnership in Injury Reduction (PIR) program.

[4] Certifying partners are responsible for assessing COR employers' health and safety management systems.

Recommendation repeated: promoting and enforcing compliance

12 RECOMMENDATION—REPEATED

We again recommend that the Department of Human Services enforce compliance with the law by high-risk employers and workers.

High-risk employers and workers are more likely to create a workplace with an undue and higher risk of injury, occupational disease or death. Examples of such employers and workers are those who:

- consistently do not comply with the law
- expose workers to hazardous materials and equipment
- have poor health and safety systems and fail to create, promote and support a safety culture

Criteria: the standards for our audit

The Department should promote and enforce compliance with the *Occupational Health and Safety Act*, the *Regulation* and the *Code*.

Our audit findings

Key findings

- The Department has developed a well-designed policy to identify COR employers with poor health and safety systems, but it is not implementing the policy consistently.
- The Department developed an escalating compliance policy, but it still has not sufficiently defined high-risk employers and workers. It also does not have processes that will comprehensively identify high-risk workers and employers and apply enforcement actions that will successfully deter them from breaking the law.
- The Department is pursuing administrative penalties and fines for high-risk employers and workers.
- The Department implemented a new inspection reporting system, but some of the data is inaccurate and some approvals are not documented.

COR employer review policy

The Department has implemented a well-designed COR employer review policy to target COR employers with deficiencies in health and safety management and COR employers that fail to comply with the law.[5] However, the Department is not consistently implementing this policy and is not performing timely employer reviews.[6]

The Department analyzed OHS and WCB data for COR employers who had a workplace fatality, a serious injury or incident, or multiple stop-work orders for imminent danger. It also screened COR employers who were on the Department's list of highest disability injury rate for four consecutive years.[7] Between July 2011 and February 2012, the Department assessed each COR employer against these four criteria and identified those COR employers who are now subject to an employer review.[8] For example, the Department recommended an employer review for:

- an employer that had not completed a hazard assessment prior to implementing a new procedure that injured a worker
- an employer that did not provide adequate training to a new worker who injured himself while lifting heavy equipment
- an employer that received multiple stop work orders for failing to have proper fall protection equipment

[5] According to WCB data provided by the Department, the number of employers in Alberta was 159,925 in 2010 and 165,518 in 2011. Of these, 9,015 were COR employers on March 31, 2011 and 9,377 on April 2, 2012. However, COR employers represent almost 50% of total insurable earnings of all employers.

[6] When it initiates an employer review, the Department works with the employer to develop an action plan identifying corrective actions and timelines for improving the employer's health and safety management system.

[7] The disability injury rate (DIR) measures the number of injuries per 100 person years for which injured workers could not perform regular tasks and had to be reassigned to modified duty until they recovered. The Department, through its Employer Injury and Illness Prevention Program, generates an annual list of the 500 employers with the highest DIRs. Only employers with an active COR for all four years will be screened.

[8] The Department assesses each COR employer's OHS, WCB and healthy and safety system information before recommending an employer review.

As of February 2012, the Department had completed a small number of employer reviews. These COR employers worked with the Department to develop an action plan to improve their health and safety systems. However, we found the Department did not document that it had followed up on the corrective actions of some of these COR employers. We also found that the Department had not approved all the action plans. Yet, PIR rebates for these COR employers were reinstated.[9]

The Department has not completed sufficient employer reviews to keep pace with the number of recommended employer reviews. As the inventory of recommended employer reviews grows, the Department will not be able to take timely action to correct these COR employers' poor health and safety systems. Thus, workers at these COR employers' worksites may continue to be exposed to avoidable workplace risks.

For many COR employers, the Department supported its rationale and correctly approved its decision to not proceed with an employer review. For example, a worker had a seizure and injured himself while operating a bobcat. As the incident was not related to the employer's health and safety systems, the Department concluded that an employer review was not required. However, for some COR employers, the Department did not have sufficient information and did not document its rationale and approval for excluding them from the review. In two examples, the Department relied on the OHS officers' opinions that the fatalities were not work related, but it did not obtain sufficient evidence to confirm this. Without such assurance, a COR employer with a weak health and safety system may be incorrectly excluded from the employer review process.

To fully implement this recommendation, the Department should:

- confirm, document and sign off on the COR employer's corrective actions
- obtain supporting information and evidence for its decision not to conduct an employer review and document its rationale and approval
- implement a quality review process to ensure the COR employer review complies with the policy
- evaluate options (e.g., review staffing needs, prioritize use of resources, review the scope of employer reviews) and implement a process to ensure timely completion of employer reviews

Escalating compliance policy

For all employers, the Department developed the Enforcement Procedure—Repeat Non-Compliance policy to escalate compliance action. However, the Department still has not sufficiently defined high-risk employers and workers. It also does not have processes that will comprehensively identify high-risk employers and workers and apply enforcement actions that will deter them from breaking the law. However, the Department is pursuing administrative penalties and fines.

The Department may issue a Section 10(1)(c) order to employers.[10] The criterion for issuing such an order is those employers who pose a continued danger to persons on the worksite and who have a history of repeat non-compliance of the same or similar parts of the Act. The policy was implemented on June 22, 2011. Since then, the Department has issued a few of these orders. By comparison, the COR employer review criteria, which apply to a significantly smaller subset of employers, identified considerably more than a few COR employers with poor health and safety systems. Applying these criteria to non-COR employers, we identified a higher number of

[9] PIR rebates are placed on hold during an employer review. COR employers who do not complete the requirements of the employer review will have their COR cancelled.

[10] This order, an additional enforcement tool, is designed to bridge the gap between standard compliance orders and a court order. Under this policy, an employer is subject to random inspections over a specified period and must demonstrate sustained compliance to close the order. Failure to comply may result in a court order.

potential high-risk employers. The Department also does not have processes to analyze OHS data and identify employers who meet the policy criterion. The table below summarizes our conclusion on the effectiveness of the processes within the employer review and escalating compliance policies. It is not a direct comparison of the policies, as they have different objectives.[11]

	COR Employers	All Employers
Number of employers (approximate)	9,000	165,000
Criteria/criterion in the policy	4	1
Employers the Department identified under the policy	Considerably more than a few	A few
Does the policy's criteria/criterion effectively define employers with poor health and safety systems or high-risk employers?	Yes	No
Does the Department have processes to analyze data and identify employers who meet the criterion/criteria?	Yes	No

Although the Department has various enforcement tools to motivate employers to improve workplace safety, it has limited enforcement actions for the few high-risk employers and workers who fail to comply with the law. The Department can seek prosecution to assess civil penalties, such as fines and imprisonment, for OHS violations. However, it is the only mechanism, beyond compliance orders, to assess penalties and it is reserved for serious incidents that result in injury or death.

To bridge the gap between compliance orders and prosecution, the Department is pursuing administrative penalties and fines.[12] It has identified key deliverables with established timelines. It created committees that have developed draft proposals and initiated stakeholder consultations. However, the Department still has work to complete to make administrative penalties and fines available to OHS officers by April 2013. The implementation of administrative penalties and fines will depend on the legislative process.

The Department is evaluating its systems, processes and policies to more effectively identify and deter high-risk employers and workers who fail to comply with the law. In its operational plan, the Department identified the following initiatives, along with timelines, to:

- identify high-risk employers and workers
- implement administrative penalties and fines
- develop an internal quality assurance process

To fully implement this recommendation, the Department should develop criteria to define the high-risk employers and workers. It should also adopt processes, similar to those implemented under the COR employer review policy, to analyze data, identify high-risk employers and workers and take appropriate enforcement action. The Department should implement effective enforcement actions for employers and workers who fail to comply with the law.

Compliance inspection systems

The Department implemented the Compliance Management Information System to replace its previous inspection reporting system. However, it did not consistently document management's approval for extending orders. Some data is incorrectly entered in CMIS, which impacts management's ability to assess information and

[11] The employer review and escalating compliance policies apply to employers with poor health and safety systems and high-risk employers, respectively.

[12] The Department is pursuing an administrative ticketing system to issue tickets to workers and employers for select offences. It is also pursuing an administrative penalties system, whereby employers may face larger fines for OHS violations.

make decisions, such as identifying high-risk employers.

The Department tracks enforcement actions, such as stop-work and stop-use orders, in CMIS. We found that the Department closed orders when employers took timely corrective action and had valid reasons for open, suspended or extended orders.[13] The Department's operating procedure requires managerial approval for open orders with compliance dates exceeding 30 days and extensions over 14 days. Although verbal approval may have been granted in our sample of open and extended orders, the Department did not document its approvals for any of these orders. Evidence of managerial approval is a particularly important control when the workplace risk or hazard has not been fully corrected.

The CMIS database captures inspection data ranging from general employer information to inspection details. We found the Department had entered some incorrect data into CMIS and it did not review the quality of the data. For example, WCB account data for some COR employers with workplace fatalities or serious injuries or incidents were incorrectly entered. As a result, the Department did not identify these employers for an employer review. Another example is incorrect dates, which result in inaccurate extension and compliance periods.

To fully implement this recommendation, the Department should implement a regular quality review process to assess and ensure critical data is accurate, complete and complies with its operating procedures. The Department should adopt a process to document its approval for orders where additional time to achieve compliance is granted.

Implications and risks if recommendation not implemented

Without adequate systems to enforce compliance with the law by high-risk employers and workers, workers may continue to be exposed to otherwise avoidable risks. Employers who refuse to comply with the law may also gain an unfair advantage over employers who spend the time and resources to create a safe workplace.

Work Safe Alberta planning and reporting—satisfactory progress

Background

In our April 2010 Report (page 43), we recommended that the Department improve its planning and reporting systems for OHS by:

- obtaining data on chronic injuries and diseases to identify potential OHS risks
- completing the current update of the Work Safe Alberta strategic plan
- measuring and reporting performance of OHS programs and initiatives that support key themes of the plan

The Department had limited data on emerging OHS risks, particularly links between occupational disease and workplace exposure, which can be gathered through cross-ministry or cross-jurisdictional collaboration. It did not update or regularly report on the Work Safe Alberta strategic plan. The Department also did not use readily available OHS data to report on the effectiveness and efficiency of its key programs and initiatives that support the plan.

Our audit findings

Key findings

- The Department is developing the current Work Safe Alberta strategic plan, but it has not yet completed it.
- The Department initiated projects to obtain data on chronic injuries and diseases and reported on the effectiveness of key OHS programs and initiatives.

Chronic injuries and diseases

The Department established the Occupational Disease Prevention Unit to research, perform

[13] We also confirmed that the Department followed up on the open and suspended orders from our April 2010 audit to ensure employers took corrective action and achieved compliance.

surveillance and prevent occupational disease in Alberta. The unit initiated three projects to gather data on occupational diseases; improve reporting of notifiable diseases; and increase inspections to identify, record and correct occupation disease hazards in the workplace.[14]

The Department has engaged Alberta Health Services and the Department of Health to obtain data on chronic injuries and diseases and has entered into a research agreement with the Alberta Transportation to obtain data on work-related motor vehicle fatalities. The Department of Human Services is partnering with CAREX Canada to gather cross-jurisdictional data on Canadians exposed to high-priority carcinogens at work.[15]

OHS programs and initiatives

The Department improved its reporting on the effectiveness and efficiency of its key programs and initiatives by posting quarterly reports for fiscal years 2009–2010 and 2010–2011 on its website. The quarterly reports provide information on the Employer Injury and Illness Prevention targeted industry, Partnership in Injury Reduction and contact centre programs. Additional reports provide an overview of WCB injury and illness data and key Work Safe Alberta initiatives and an analysis of OHS implications from economic, employment and demographic trends.[16]

Work Safe Alberta strategic plan

Satisfactory progress has been made on this recommendation. The Department developed Work Safe Alberta plans for 2009–2012 and 2011–2014. These plans were not approved, because the Minister wanted to review the direction and change the process for developing the plan. Government, industry and labour had jointly developed the previous strategic plans, with the Department taking the lead for most of the implementation. Under this process, the Department did not have control over industry and labour initiatives in the plan and was unable to ensure implementation or evaluation of these initiatives and the overall effectiveness of the plan. As a result, the Department proposed to reintroduce the Work Safe Alberta plan as a government-wide strategy that:

- aligns with activities of the Department branches responsible for OHS
- coordinates with other ministries
- seeks wider consultation with Albertans

The government, with the Department as the lead, will be accountable for the whole strategy.

The Department has approved a project charter and the project team has met to develop the new plan. To fully implement this recommendation, the Department must demonstrate that it has met the major deliverables and timelines identified in the project charter. The Department should develop, finalize, approve and carry out a plan with clear objectives, responsibilities, timelines and deliverables.

Occupational Health and Safety inspection systems—implemented

Background

In our *April 2010 Report* (page 46), we recommended that the Department strengthen its proactive inspection program by improving risk focus and coordinating employer selection methods for its inspection initiatives. While the Department identified industries based on risk, it did not clearly define the criteria for employer selection. Also, the Department's scheduling of proactive inspections was not risk-based, as it did not consider evening and weekend workplace incidents.

[14] Occupational Disease Surveillance, Analysis of Notifiable Disease and Specialized Inspection for Occupational Disease
[15] CAREX Canada is a national research project to estimate the number of Canadians exposed to select high priority carcinogens at work and the general environment
[16] *Work Safe Alberta 2010–11 Initiatives Report and Occupational Health and Safety Trends and Issues 2010*

Our audit findings

The Department strengthened its proactive inspection program by analyzing WCB and employer safety history data to identify, select and inspect worksites and employers within high-risk sectors. The Department conducted four focused inspection projects targeting commercial construction, powered mobile equipment, young workers and residential construction. For example, the young worker project targeted convenience stores and restaurants, because these employers frequently hire young workers and have a high frequency of workplace incidents.

The Department scheduled inspections based on risk by incorporating weekend and evening inspections in its young workers and residential construction targeted industry initiatives. For example, weekend and evening inspections accounted for 10% of young worker worksite inspections.[17] The Department has conducted weekend and evening inspections since announcing that these inspections will continue as a part of the ongoing inspection program.[18]

Certificate of Recognition—satisfactory progress

Background

In our *April 2010 Report* (page 48), we recommended that the Department improve its systems to issue COR by obtaining assurance on work done by COR auditors and consistently following up on recommendations made to certifying partners. Although the Department and certifying partners reviewed COR auditors' reports, they did not confirm the quality of the fieldwork done. At the time of the audit, the Department and certifying partners were finalizing a terms of reference for an onsite audit review pilot project to close the gap. The Department also needed to improve its systems to follow up on recommendations to its certifying partners.

Our audit findings

Key finding

The Department followed up on its recommendations to certifying partners, but it has not yet implemented quality reviews of COR auditors' work.

Certifying partners

The Department improved its COR systems by following up on recommendations it makes to certifying partners. It implemented a policy requiring regular audits and follow-up of certifying partners and requiring certifying partners to correct deficiencies in a timely manner. The Department audited all certifying partners. It followed up to ensure the certifying partners provided supporting documentation to confirm deficiencies were corrected in a timely manner.

Quality assurance

Satisfactory progress has been made on this recommendation. The Department completed the OSAR pilot project and found that most COR auditors were "accurately reporting their activities and following the audit processes."[19] However, the report also found that some auditors were not following standard audit processes. The report concluded that the Department should incorporate an OSAR process as part of its quality assurance. The OSAR committee drafted a project charter for implementing reviews of the COR auditors' fieldwork and obtained approval from the certifying partners. The Department is currently implementing the deliverables within the charter.

To fully implement this recommendation, the Department must demonstrate that it has met the project charter deliverables and milestones and implement a process to review the work done by COR auditors.

[17] *Occupational health and safety focused inspection project: Young workers*, July 2011.
[18] "OHS Presence to increase following safety inspection results," November 7, 2011, Government of Alberta News Release.
[19] *On-Site Audit Review (OSAR) Pilot Project—Final Report*, July 8, 2011.

Legislated permit and certificate programs—implemented

Background

In our *April 2010 Report* (page 50), we recommended that the Department strengthen the legislated permit and certificate programs by improving controls over asbestos certificates. The Department was missing information on whether and to whom certificates had been issued and did not periodically review training agency records to account for certificates they had issued. Also, OHS officers at asbestos worksites did not have access to the Department's database to verify worker certificates.

We also recommended that the Department improve its processes for approval and monitoring of external training agencies. Some blaster training agency files did not have formal approvals and some asbestos training agency files did not have course instructor approvals. Periodic audits of a few asbestos training agencies were either not completed or delayed.

Our audit findings

The Department improved controls over asbestos certificates by limiting the number of blank asbestos certificates training agencies receive and requesting training agencies to provide all certificate information within 30 days of a worker completing a course. The Department voided and had the training agencies destroy excess blank certificates. Certificate information is updated in the Department's SharePoint database, which keeps an accurate record of issued and unissued certificates. OHS officers can remotely access the database to confirm an asbestos worker's certificate information during an inspection.

The Department improved its process for monitoring training agencies by performing course and administrative audits every five years.[30] All asbestos training agencies underwent an administrative audit. Course audits for all agencies were completed, with the exception of two agencies that have not offered a course within the last five years. The Department will conduct course audits when these training agencies offer courses.
The Department updated asbestos training agency files to include the appropriate approvals and recertified training materials for all approved blaster training agencies. The Department removed two blaster training agencies from the approved training agency list for failing to submit training material.
All blaster training agency files contained approval letters from the Department. Approvals for asbestos course instructors were documented and kept in each agency's file.

[30] Course audits review course delivery, content and materials, while administrative audits are designed to evaluate administrative procedures and documentation.

AUDITOR GENERAL
Alberta

Literature Review—Performance Targets

Report of the Auditor General of Alberta—July 2012

Literature Review—Performance Targets

Executive summary

This literature review has been prepared for use by Government of Alberta ministries in developing their performance measure targets and preparing annual business plans. It may also be useful as a reference when preparing results analysis commentary for annual reports.

Performance measurement and targets

Performance targets are a key component of an organization's performance and strategic management systems. Targets are management tools that assist in driving change and continuous improvement, or in ensuring established, acceptable standards are maintained. The use of targets is important within results-based reporting models that seek to identify a set of core businesses, goals and performance measures for an organization as a whole, as well as its operational departments.

Target development

Targets should be challenging and achievable. Implicit in the establishment of good targets is an interest in monitoring and assessing performance and/or in initiating or driving change. In this respect, targets should establish performance expectations for an ongoing or specified period of time.

The development of targets requires the use of stakeholder input, dialogue, judgements and decisions, commitment and appropriate tracking mechanisms. Ultimately, management is responsible for choosing appropriate targets, which should be supported by operational plans or changes directed at meeting (or exceeding) the target.

Types of targets

A wide variety of target types can be used, some of which have related qualities and overlapping features.

- Benchmark target
- Output or outcome target
- All the time target
- Minimum service level target
- Percentage achievement target
- Time-based target
- Trend-based or directional target
- Comparative ranking target
- Standards-based target
- Stretch target
- Range-based target
- Zero tolerance target

For each measure, documenting the type of target, the rationale for its selection and for the target value at the target setting time is useful. This information can assist in future target setting and as background if a significant variance explanation subsequently needs to be developed.

Using targets to assess and improve performance

The reporting of targets in public reports (e.g., government business plans, annual reports) can be part of establishing accountability for results. The overriding combination of measurement and accountability should direct operational decisions aimed at meeting target outcomes and improving future results. The usefulness of the performance management system is quite limited if the results and feedback are not used to improve the priorities and target setting portions of the system. Assessments by senior management should be completed regularly. Unintended consequences can arise when a target is poorly constructed. Performance measures and targets should not be amended too frequently.

Public reporting on targets—variance analysis

For each target, there should be an ability to monitor and chart trends on a year-over-year basis and report in this regard. The hard work put into proper design, research and consultation on targets is compromised if similar care is not invested in the reporting phase.

Reporting on the targets should explain what happened and why it happened. For the why, variance analysis (i.e., assessing actual results against prior years' results and targets) should be provided and it should be comprehensive. In particular, significant variances need to be explained. There should be qualitative analysis with balanced commentary on successes and shortcomings in meeting expectations and what has been learned in either case.

Background

Performance targets are a key component of an organization's performance and strategic management systems. This document summarizes our periodic reviews of literature surrounding good practices for establishing and reporting on targets.

Assisted by this reference material and ongoing dialogue and consultation, we anticipate that Government of Alberta ministries will continue to provide meaningful and useful financial and non-financial reporting to Albertans.

Most of the information presented in this document is general in nature. Parts of this document have also been tailored to recognize various Government of Alberta specific programs, documents and terminology. Other entities using this literature review should customize this guidance to recognize their own planning guidelines, business practices and objectives, stakeholder reporting requirements and organizational culture.

Overview of performance targets

Results-based reporting is an approach that seeks to identify a set of core businesses, goals and performance measures for an organization as a whole, as well as its operational departments. For government entities, the public officials and oversight bodies can use those goals and performance measures to determine how successful each ministry/department was at accomplishing their goals.

Performance targets are management tools that assist in driving change and continuous improvement, or in ensuring established, acceptable standards are maintained. Timely results analysis of outputs, outcomes and overall performance is important. In some respects this information and its review is a closing step. However, the results information should also be a key piece in the ongoing monitoring, operational and strategic planning processes continuum. Inputs associated with actual results should also be incorporated into this assessment process as part of cost/benefit and cost efficiency analysis.

Each Alberta ministry annually develops a three-year business plan to identify its set of core businesses, goals, performance measures and targets. These business plans establish a commitment between the ministry and the government about what is to be achieved by the ministry over the next three years. What was actually achieved is subsequently reported in a comprehensive results analysis section within the ministry's annual report.

Goals should be presented as general statements that articulate the overall direction or intent of a program. In some cases, the goal is presented as a strategic statement, objective or intended outcome. Each goal is linked to at least one performance measure and one target, the combination of which forms a basis for assessing the degree to which the goal has or has not been achieved. A target should concisely present a measurable level, quantity or

quality of performance. Together, a performance measure and its target provide a concrete statement of what is intended to be accomplished over a period of time.

Targets are a key component of a performance measures cycle, as they provide a context for the performance measure. Consider the following example for a fictional agricultural department's public business plan:

> One of the department's goals states "Our agricultural producers are to be financially protected from the effects of natural disasters and emergency events through a comprehensive agricultural relief management system." One of the performance measures relating to this goal is "Percentage of claims where a member of the crop damages assessment team arrives on site within 30 days of a claim being received." The percentage of claims with initial assessments within 30 days provides a good performance measure for the goal. However, without a target (in this case set at 100%), the department would not know what level of performance is expected.

Developing performance targets

A set of well thought out targets that tie back to goals will be an integral part of a comprehensive performance measurement system. Implicit in the establishment of good targets is an interest in monitoring and assessing performance and/or in initiating or driving change. In this respect, targets should establish performance expectations for an ongoing or specified period of time. Results are improved by being able to better understand, manage and control activities. Monitoring progress, adjusting procedures and anticipating changes in the operational environment will contribute to improved results. Overall, targets should be challenging and achievable. Exceeding a measure's targets, particularly if achieved consistently over several years, may call into question the rigour and appropriateness of the target setting process.

The development of targets is a difficult process. It requires the use of stakeholder input, dialogue, judgements and decisions, commitment and appropriate tracking mechanisms. Ultimately, management is responsible for choosing appropriate targets, which should be supported by operational plans or changes directed at meeting (or exceeding) the target. There is a wide variety of target types and options that can be used, some of which have related qualities and overlapping features.

Types of targets

Benchmark target

A benchmark target is usually established with reference to the performance of an external party (or parties) with a similar program. Establishing the benchmark would involve an assessment of the recent historical results of the external program(s). A more simplistic process could involve making an organization's own prior year performance the benchmark standard. The target may be the benchmark itself or a specified (presumably) higher standard set with reference to the external or prior year information. The target arising from a benchmarking process will be an absolute measurable amount, with or without an associated relative position/standing/ranking from a comparison with other programs' results.

Output or outcome target

Targets can be based on the direct outputs of a program or activity or they can be based on the outcomes expected as a result of the program or activity. For the agricultural example, an output based target for the department could be the total number of assistance claims processed. A related outcome target could be an increase in the timeliness of the relief payments to claimants after the eligible emergency and natural disaster events occur.

All the time target

Some targets specify the level of service to be provided all the time. For the example, the agricultural department could target to complete all assistance claims without a complaint being logged.

Minimum service level target

A target may commit to a specified minimum level of service that is to be provided all the time. For example, the agricultural department could target to have all assistance claims completed within 75 days.

Percentage achievement target

A target can commit to achieve a stated level of performance at a set rate. For the agriculture example, the department could target to have 95% of the assistance claims completed within 60 days.

Time-based target

A time-based target commits to the achievement of a stated goal within a set timeframe. For example, by the end of the third year out, the department could target to have all agricultural assistance requests completed within 60 days. In this case, as part of the transition, there could be interim percentage achievement targets (prior section) presented for each of the years leading up to the third year.

Trend-based or directional target

Somewhat related to the combination of a time-based and percentage achievement target is the trend-based or directional target that, in more general terms, commits to steady improvement over time. For example, as part of a longer term 100% completion within a set period of days goal, the agricultural department could target to have a higher completion rate for crop damage assistance requests every year.

Comparative ranking target

A comparative ranking target will inevitably be with reference to external, published performance information. Often this information has been accumulated through surveys in which the reporting entity may or may not have been a direct participant. In the latter case, care should be taken to ensure comparability of methods and informational content (in addition to a reasonable expectation that the information will continue to be available in the future).

Standards-based target

For well running, established programs, a target stipulating adherence to an existing standard can work well (particularly if it continues to be assessed as challenging and achievable). In some cases, the performance standard is prescribed and there is no alternative. For example, the fictional agricultural department could, and probably must, target to have all assistance claims completed in compliance with applicable legislation.

Stretch target

A target may be presented, sometimes on a supplementary basis, which is significantly beyond an organization's current performance level. It cannot be achieved by incremental or small improvements, instead requiring significant focus and effort to be achieved.

A stretch target example would be the completion of all assistance relief claims within 60 days, when recent results have generally had completion within 90 days. In this case, gathering ongoing information on the percentage of claims meeting the 60 day completion standard (and identifying any operational adjustments required) would be useful for future management decisions. In this example, segregating the files meeting the 60-day standard through normal operations and those that were identified as requiring and receiving special "fast track" processing may be useful.

Range-based target

A target can be developed stipulating a specific performance level range, as opposed to a specific point target. This type of target may be appropriate for more established programs or for programs under development or facing significant change. This approach may be both practical and motivating where there is a more significant element of uncertainty with respect to volume and the extent of work involved with completing outcome oriented tasks. As an example, the department could target to have 90-95% of the agricultural assistance relief claims completed within 60 days.

Zero tolerance target

In areas such as safety, health and security, statements may be made that certain performance results should be unblemished or flawless. In these cases, the target will be stated such that the objective is no negative outcomes or all positive outcomes. The likelihood of achieving "ideal state" outcomes for a reporting period will vary. The zero tolerance target approach recognizes that if the organization sets a target any less onerous, it may be cast in an unfavourable light or it may reflect negatively on the organization's commitment to the desired result. In these cases, the entity should be prepared to address and report on the situation or circumstances giving rise to each deviation from the zero tolerance targets. It is important that the methodology for the measure clearly describe what constitutes or will be considered a deviation and the extent of the variance from target that will require follow-up reporting.

Sources of information

When developing targets, reliance should be placed on a variety of sources for information and feedback to aid in the development of better targets. Information sources to consider include:

a) Employees
   Employees are closest to the action and are an important source of information on which targets are important and which ones are viable. Employees involved in setting the targets will also have an increased understanding of and support for the performance measures and targets.

b) Stakeholders
   Broad consultation is important for appropriate targets to be developed and accepted. Overall, a wide range of interested and affected parties should be involved in any performance measurement process. All, if not a significant subset of this group, should also be involved in the target setting component of that process. This will help to ensure wide interest in and ownership of results.

c) Trends and baselines
   A trend analysis of past data can help establish a baseline for setting the target. Baseline data is useful for predicting future levels of performance if the present and expected business conditions are similar to those experienced in the past.

d) Benchmarks
   If credible, "top performer", external source benchmark information is available there can be a comparison between one department's performance and an appropriate "best practice" or "best in class" standard. The intent is to identify why a certain method or organization's approach is the best and establish ways of emulating that success.

Benchmarking may help tell us what may be possible. The performance levels of benchmarked organizations should not be used as the sole source of data for setting targets since their success factors may not be (fully) applicable in the local context.

The data, trend line, benchmark and other information used to set targets may be externally or internally generated. In considering the adoption of a new measure or changing an existing measure, an organization may spend several years accumulating historical data for comparative presentation purposes. The prior years' information, supplemented by the target, makes for a first time performance measure presentation package that is more meaningful than might otherwise be the case. Once approved, the Government of Alberta's measure commitments are communicated publicly through the targets in each ministry's business plan.

Performance target characteristics

The nature of performance measures and their associated targets can vary widely. That said, there is an existing set of "good practice" guidelines that should be considered for articulating performance measures and targets. These characteristics have been summarized into the SMART acronym and were developed by the Office of the Deputy Prime Minister in the United Kingdom[1]:

- Specific—measures and targets are clearly related to a specified objective and are simple, understandable and precise.
- Measurable—objectives should be quantifiable and verifiable so that progress can be assessed.
- Achievable—each measure and target should be aggressive, but achievable within the specified time period and with the resources available.
- Realistic and results orientated—targets should be realistic for each specific performance measure. For example, it may be reasonable for a health department to adopt an objective of reducing infant mortality, but it may not be realistic to promise to eliminate it.
- Time bound—a target should specify the date by which it will be achieved. The timeframe should be reasonable, yet aggressive. Wherever possible, interim milestones should be used to track progress.

The target should be stated on the same basis as the performance measure. The measure description in external and internal documents should be written in clear, concise language. The target units and any associated timeframe should be consistent with the measure description, including any supplementary methodology details provided.

Public reporting on performance targets

The hard work put into proper design, research and consultation on targets is compromised if similar care is not invested in the reporting phase. For each target, there should be an ability to monitor and chart trends on a year-over-year basis and report in this regard.

The most important principle to keep in mind is to ensure that performance information is clear. Readers should easily be able to understand the information being reported. This means explaining any technical terms that may be unfamiliar to the average person. The same principle applies to any tables or graphs provided. These should be simple, clearly labelled and readable, yet informative. Final graphic production considerations (e.g., will it be published in colour or black and white) should also be assessed to maintain clarity in the information being presented.

Ideally, information should also be complete. Reporting is complete and unbiased if it deals with all of the significant aspects of performance, including efficiency (i.e., relationship between inputs and outputs), effectiveness (i.e., outcomes) and costs.

[1] Office of the Deputy Prime Minister, November 25, 2002, *Monitoring regional planning guidance – Good practice guidance on targets and indicators*. Retrieved January 24, 2003, from http://www.planning.odpm.gov.uk/targets/05.htm

Reporting on the targets shows what happened, but does not show why. Variance analysis (i.e., assessing actual results against prior years' results and targets) should be provided and it should be comprehensive. There should be qualitative analysis with balanced commentary on successes and shortcomings in meeting expectations and what has been learned in either case. Variance analysis and related disclosures that may accompany the targets information include:

- discussion linking the degree to which the performance measure results contributed to the ultimate outcomes
- comparative results for at least one prior, equivalent period of time
- relating results achieved to the ongoing capacity to meet or improve performance outcomes
- explaining what the key risks are, levels of acceptable risk and how the risks influenced choices made in relation to policies, goals and performance expectations
- relating results achieved to the risks assumed
- explaining significant variances between target and actual results
- trend information that shows whether performance is improving or declining over time
- cost information related to the measure—ideally, this would be information on unit cost per output or outcome that demonstrates the cost effectiveness and productivity of the organization's program efforts.
- any other information that is relevant, such as assessment methods or limitations in the quality of the reported data

Once committed to reporting a performance measure/target set, the presentation format (tables, charts, trend line or other graphics) and any accompanying text should be contemplated, at least on a preliminary basis, in advance of the annual report development and design process. Overall, the public reporting presentation package comes down to a balance between providing adequate detail to make it understandable, but not so much that it loses the main messages.

Using targets to assess and improve performance

The reporting of targets in public reports (e.g., government business plans, annual reports) can be part of establishing accountability for results. The targets will directly and indirectly impact management decisions within the overall performance measurement system. The overriding combination of measurement and accountability should direct operational decisions aimed at meeting target outcomes and improving future results.

If there are any outcomes that are unexpectedly good or bad, management should obtain feedback from their employees and stakeholders to re-evaluate the strategic priorities of the organization—from mission, to goals, to measures, to targets. Ideally, this aspect of the performance measurement system is part of a continuous improvement attitude and approach for the organization as a whole.

[2] United Kingdom Audit Commission, June 2000, *Management paper—aiming to improve the principles of performance measurement*. Retrieved November 17, 2004, from http://www.audit-commission.gov.uk/reports/AC-REPORT.asp?CatID=&ProdID=7237DC4D-1030-4b87-88F4-CD2A14B2A1AE

Regular reviews of performance measures and targets against a department's goals and strategic plans are keys to success in performance management. The usefulness of the performance management system is quite limited if the results and feedback are not used to improve the priorities and target setting portions of the system. Assessments by senior management should be completed regularly. The optimal frequency of assessment will depend on the nature of the target and the availability of the target information.

The application of the above target assessment process can be illustrated using the following example:

> A department uses satisfaction data from quarterly surveys conducted for vehicle and land titles registration functions for several purposes. Survey results and volume statistics for the functional areas are provided to senior management of the department on a quarterly basis. If there has been a significant decrease in survey results relative to targets, a summary report is prepared with an analysis as to why the results have changed. With the benefit of this information, department management may make remedial changes to specific programs and resources allocated to a particular function on a timely basis.

Business plans, performance targets and follow-up

As noted earlier, goals, targets and performance measures for upcoming periods are often first presented through their inclusion in a business plan. Subsequent to business plan approval and public release, there may be changes in:

- the operating environment
- the needs of the public
- priorities, budgets and program delivery mechanisms
- organizational structure

If significant, any changes or combination of changes may render it unlikely or unrealistic that a particular target will be met. Depending on the extent and timing of change (e.g., if the target was set several years earlier), it may be that a significant variance arises between the target and actual result. In these cases, the target should be presented and the changed circumstances should be included as part of the variance analysis discussion in that year's annual report for that particular measure. There may also be some related commentary to include that refers to the (likely) difference in year-to-year actual results for the period of changed circumstances. For Government of Alberta ministries, the obligation to report a significant difference against the original target is stated through the combined provisions of Treasury Board and Finance's *Ministry Business Plan Standards and Reference Guide* and its *Ministry Annual Report Standards*.

It is not an option to just restate the original target after the fact (i.e., essentially proceed as if the original target was never set) or to exclude the measure and its target from annual reporting (i.e., not present any follow-up against the originally published target).

On a supplementary basis, a restated target could be formally set. If this is done, there would be a second set of reporting and variance considerations to explain (presumably with a lesser likelihood that any variance arising would be significant). More likely, given timing considerations, is that only the target in future business plans would reflect the changed circumstances.

The above-noted steps reflect an approach that has consistent follow-up for each target, with provisions for changed circumstances to be incorporated prospectively into business plans and the next round of annual reporting.

It is possible that significantly changed circumstances will not warrant a target adjustment. For a key service or program, it may be that, instead, operational changes and perhaps more resources to maintain the service levels will be required. There is also the possibility that significant ongoing operational efficiencies have been established and fewer net resources are required to maintain the key service level outcomes. In either of these cases, it is likely that the business plan (as well as operational budgets behind it) will be what has to be adjusted on a go forward basis.

The idea, and in fact likelihood, that certain targets may eventually be considered outdated should not negatively impact the credibility of a sound target setting process. On the contrary, following the systematic complement of analysis and reporting follow-up outlined previously should enhance the validity and credibility of the results analysis process.

A few additional points related to targets and business plans follow:

- Improvements may also be needed to adapt to changing levels of performance or growth of a program. With experience over time, an organization learns to perform better and a target may be met or exceeded. Under these circumstances, targets previously used may no longer be challenging or realistic. Consequently, the target expectations would need to be revised to better reflect an organization's current objectives and operational capacity.

- Although changes over time are often required to make incremental improvements to the performance measurement system, performance measures and targets should not be amended too frequently; otherwise, long-term trends and comparisons will be less clear and potentially lost.

Other lessons from research

Various other lessons follow:

- Longer-term targets (e.g., 5-10 and 10-20 years out) are useful for establishing an organizational vision. Ideally, there should be short, medium and longer term targets to help in determining progress against an organization's mission, vision and goals.

  Such targets can motivate and inspire. Developing longer term targets will require significant changes to business-as-usual environment thinking. Planning and strategic planning processes should include some time for looking beyond the reasonably foreseeable (two to three years) future and documenting a set of longer term targets.

- The focus in setting these longer term targets must, inevitably, be on more broadly stated outcomes and accomplishments, including any significant strategic/change plans from the status quo. Feedback regarding progress against the longer term goals will likely be more subtle and intuitive for some years. In other years, there may be some more tangible and identifiable steps taken. This will contrast with the situation for annual targets, which allow the opportunity for relatively quick feedback on the efforts made, which facilitates timely adjustment to existing processes or programs.

- As outlined, careful consideration should be put into how targets are set. It is also important there be a review and approval process that ideally, is somewhat independent from the target setting process.

- Once targets have been set, regardless of the process, management and staff should be positively motivated to meet the targets. To this end, clear upfront and ongoing communication is important as follow-up to the stakeholders input to the target setting process.

- Valuable resources will be used and possibly even redirected from other areas, to meet targets.

- Depending on the methods used to evaluate and compensate management, some managers may have an incentive to bias the performance measurement data, reporting and targets. This can include dropping target indicators that they do not believe are beneficial to report, adding outcome indicators which they believe will help their cause, setting unrealistically high goals for political and fund justification purposes, or setting low targets to look good later.

  Accordingly, all targets should be subject to rigorous upfront review by senior management to reduce the potential for dysfunctional behaviour. This review should be supplemented with ongoing senior management oversight and monitoring of operations. Senior management's focus will be on ensuring ongoing alignment and focused efforts directed at meeting the targets.

- Unintended consequences can arise when a target is poorly constructed. These are referred in performance literature as "perverse incentives." An example of this situation from the book, *The new project management: Tools for the age of rapid change, corporate reengineering and other business realities*[2] follows:

  Rewards were offered to those operators who handled the most calls. Anna was consistently winning by the equivalent of ten horse lengths. Each time Anna received a phone call from a caller with a foreign accent, she would hang up. She reasoned (correctly) that talking to someone who was struggling with English would be time-consuming and would reduce her call-handling performance. She was unwittingly defeating the whole purpose of the telephone hot line, which was to increase customer satisfaction.

  Ideally, these "perverse incentive" behaviours would be predicted and adjustments would be made in the planning phase of the performance management process. However, if they were unexpected, corrective action should be taken prior to the release of the measures and targets for the next reporting period, if not sooner.

Summary

Good targets help management communicate very specifically what they desire for the organization. While an element of risk is involved in setting out a challenging target, the benefits to the public and government, as well as staff of the organization is worthwhile.

The performance management process is a key component in strategic management for all organizations. By developing and using well thought out targets and performance measures, organizations can increase the probability that they can successfully achieve their goals.

[2] Frame, J. Davidson, 1994, *The new project management: Tools for the age of rapid change, corporate reengineering, and other business realities*. San Francisco: Jossey-Bass.

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AUDITOR GENERAL *Alberta*

Glossary

Report of the Auditor General of Alberta—March 2012

Accountability	In governance, the responsibility of an organization (government, ministry, department or other entity) to: • report results (what they spent, and what they achieved) • compare results with plans, budgets or goals • explain any difference between the actual and expected results Government accountability allows Albertans to decide whether the government is doing a good job. They can compare the costs and benefits of government action: what it spends, what it tries to do (goals) and what it actually does (results).
Accrual basis of accounting	A way of recording financial transactions that puts revenues and expenses in the period when they are earned and incurred.
Adverse auditor's opinion	An auditor's opinion that things audited do not meet the criteria that apply to them.
Assurance	An auditor's written conclusion about something audited. Absolute assurance is impossible because of several factors, including the nature of judgement and testing, the inherent limitations of control and the fact that much of the evidence available to an auditor is only persuasive, not conclusive.
Attest work, attest audit	Work an auditor does to express an opinion on the reliability of financial statements.
Audit	An auditor's examination and verification of evidence to determine the reliability of financial information, to evaluate compliance with laws or to report on the adequacy of management systems, controls and practices.
Auditor	A person who examines systems and financial information.
Auditor's opinion	An auditor's written opinion on whether things audited meet the criteria that apply to them.
Auditor's report	An auditor's written communication on the results of an audit.
Business case	An assessment of a project's financial, social and economic impacts. A business case is a proposal that analyzes the costs, benefits and risks associated with the proposed investment, including reasonable alternatives. The province has issued business case usage guidelines and a business case template that departments can refer to in establishing business case policy.
Capital asset	A long-term asset.
COBIT	Abbreviation for Control Objectives for Information and Related Technology. COBIT provides good practices for managing IT processes to meet the needs of enterprise management. It bridges the gaps between business risks, technical issues, control needs and performance measurement requirements.
Criteria	Reasonable and attainable standards of performance that auditors use to assess systems or information.
Cross-ministry	The section of this report covering systems and problems that affect several ministries or the whole government.
Crown	Government of Alberta.
Deferred contributions	See "Restricted contributions."

Glossary

Deferred maintenance Any maintenance work not performed when it should be. Maintenance work should be performed when necessary to ensure capital assets provide acceptable service over their expected lives.

Enterprise risk management (ERM) The systems and processes organizations use to identify and manage risks within an organization so they can achieve their goals and objectives. An ERM creates linkages between significant business risks and possible outcomes so that management can make informed decisions. An ERM framework helps organizations identify risks and opportunities, assess them for likelihood and magnitude of impact, and determine and monitor the organization's responses and actions. A risk-based approach to managing an enterprise includes internal controls and strategic planning.

Enterprise resource planning (ERP) Abbreviation for enterprise resource planning. ERPs integrate and automate all data and processes of an organization into one comprehensive system. ERPs may incorporate just a few processes, such as accounting and payroll, or may contain additional functions such as accounts payable, accounts receivable, purchasing, asset management, and/or other administrative processes. ERPs achieve integration by running modules on standardized computer hardware with centralized databases used by all modules.

Exception Something that does not meet the criteria it should meet—see "Auditor's opinion."

Expense The cost of a thing over a specific time.

IFRS International Financial Reporting Standards (IFRS) are global accounting standards, adopted by the Accounting Standards Board of the Canadian Institute of Chartered Accountants. They are required for government business enterprises for fiscal years beginning on or after January 1, 2011.

GAAP Abbreviation for "generally accepted accounting principles," which are established by the Canadian Institute of Chartered Accountants. GAAP are criteria for financial reporting.

Governance A process and structure that brings together capable people and relevant information to achieve goals. Governance defines an organization's accountability systems and ensures effective use of public resources.

Government business enterprise A commercial-type enterprise controlled by government. A government business enterprise primarily sells goods or services to individuals or organizations outside government, and is able to sustain its operations and meet its obligations from revenues received from sources outside government.

Internal audit A group of auditors within a ministry (or an organization) that assesses and reports on the adequacy of the ministry's internal controls. The group typically reports its findings directly to the deputy minister or governing board. Internal auditors need an unrestricted scope to examine business strategies, internal control systems, compliance with policies, procedures, and legislation, economical and efficient use of resources and effectiveness of operations.

Internal control A system designed to provide reasonable assurance that an organization will achieve its goals. Management is responsible for an effective internal control system in an organization, and the organization's governing body should ensure that the control system operates as intended. A control system is effective when the governing body and management have reasonable assurance that:

- they understand the effectiveness and efficiency of operations
- internal and external reporting is reliable
- the organization is complying with laws, regulations and internal policies

Management letter Our letter to the management of an entity that we have audited. In the letter, we explain:

1. our work
2. our findings
3. our recommendation of what the entity should improve
4. the risks if the entity does not implement the recommendation

We also ask the entity to explain specifically how and when it will implement the recommendation.

Material, materiality Something important to decision makers.

Misstatement	A misrepresentation of financial information due to mistake, fraud or other irregularities.
Outcomes	The results an organization tries to achieve based on its goals.
Outputs	The goods and services an organization actually delivers to achieve outcomes. They show "how much" or "how many."
Performance measure	Indicator of progress in achieving a goal.
Performance reporting	Reporting on financial and non-financial performance compared with plans.
Performance target	The expected result for a performance measure.
PSAB	Abbreviation for Public Sector Accounting Board, the body that sets public sector accounting standards.
PSAS	Abbreviation for public sector accounting standards, which are applicable to federal, provincial, territorial and local governments.
Qualified auditor's opinion	An auditor's opinion that things audited meet the criteria that apply to them, except for one or more specific areas—which cause the qualification.
Recommendation	A solution we—the Office of the Auditor General of Alberta—propose to improve the use of public resources or to improve performance reporting to Albertans.
Restricted contributions	Canadian accounting standards for not-for-profit organizations require externally restricted contributions to be accounted for by reporting the value of contributions as liabilities until the stipulations are met, after which they are recognized as revenue. Externally restricted contributions for which the stipulations have not been met are called "deferred contributions." The purpose of this accounting is to provide readers of the financial statements with useful information about how management has used resources provided to them and whether or not they have complied with stipulations imposed by donors.
Review	Reviews are different from audits in that the scope of a review is less than that of an audit and therefore the level of assurance is lower. A review consists primarily of inquiry, analytical procedures and discussion related to information supplied to the reviewer with the objective of assessing whether the information being reported on is plausible in relation to the criteria.
Risk	Anything that impairs an organization's ability to achieve its goals.
Risk management	Identifying and then minimizing or eliminating risk and its effects.
Sample	A sample is a portion of a population. We use sampling to select items from a population. We perform audit tests on the sample items to obtain evidence and form a conclusion about the population as a whole. We use either statistical or judgemental selection of sample items, and we base our sample size, sample selection and evaluation of sample results on our judgement of risk, nature of the items in the population and the specific audit objectives for which sampling is being used.
Standards for systems audits	Systems audits are conducted in accordance with the assurance and value-for-money auditing standards established by the Canadian Institute of Chartered Accountants.
Systems (management)	A set of interrelated management control processes designed to achieve goals economically and efficiently.
Systems (accounting)	A set of interrelated accounting control processes for revenue, spending, preservation or use of assets and determination of liabilities.

Systems audit

To help improve the use of public resources, we audit and recommend improvements to systems designed to ensure value for money.

Paragraphs (d) and (e) of subsection 19(2) of the *Auditor General Act* require us to report every case in which we observe that:

- an accounting system or management control system, including those designed to ensure economy and efficiency, was not in existence, or was inadequate or not complied with, or
- appropriate and reasonable procedures to measure and report on the effectiveness of programs were not established or complied with.

To meet this requirement, we do systems audits. Systems audits are conducted in accordance with the auditing standards established by the Canadian Institute of Chartered Accountants.

First, we develop criteria (the standards) that a system or procedure should meet. We always discuss our proposed criteria with management and try to gain their agreement to them. Then we do our work to gather audit evidence. Next, we match our evidence to the criteria. If the audit evidence matches all the criteria, we conclude the system or procedure is operating properly. But if the evidence doesn't match all the criteria, we have an audit finding that leads us to recommend what the ministry must do to ensure that the system or procedure will meet all the criteria. For example, if we have five criteria and a system meets three of them, the two unmet criteria lead to the recommendation.

A systems audit should not be confused with assessing systems with a view to relying on them in an audit of financial statements.

Unqualified auditor's opinion

An auditor's opinion that things audited meet the criteria that apply to them.

Unqualified review engagement report

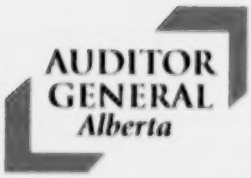
Although sufficient audit evidence has not been obtained to enable us to express an auditor's opinion, nothing has come to our attention that causes us to believe that the information being reported on is not, in all material respects, in accordance with appropriate criteria.

Value for money

The concept underlying a systems audit is value for money. It is the "bottom line" for the public sector, analogous to profit in the private sector. The greater the value added by a government program, the more effective it is. The fewer resources used to create that value, the more economical or efficient the program is. "Value" in this context means the impact that the program is intended to achieve or promote on conditions such as public health, highway safety, crime or farm incomes. To help improve the use of public resources, we audit and recommend improvements to systems designed to ensure value for money.

Other resources

The Canadian Institute of Chartered Accountants (CICA) produces a useful book called, *Terminology for Accountants*. They can be contacted at CICA, 277 Wellington Street West, Toronto, Ontario, Canada M5V 3H2 or www.cica.ca.



Office of the Auditor General of Alberta
8th Floor, 9925 – 109 Street NW
Edmonton, Alberta, Canada T5K 2J8

Phone: 780.427.4222
Fax: 780.422.9555
Email: info@oag.ab.ca

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